AMERICAN VOCATIONAL JOURNAL

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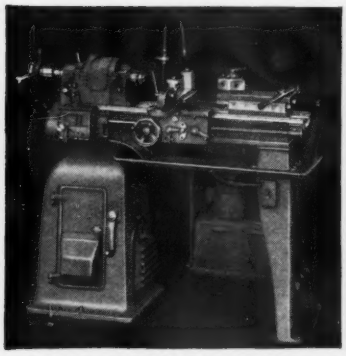
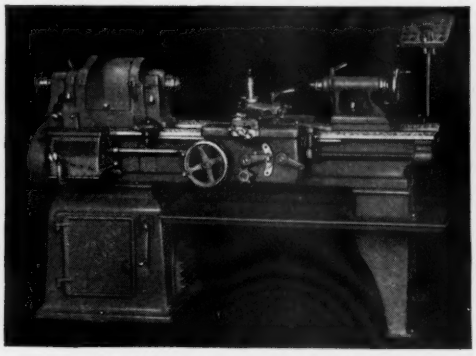
- Industrial Electronics
- Rural Electrification
- AVA CONVENTION

SOUTH BEND *Precision* LATHES

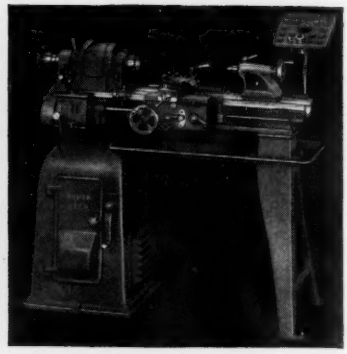
ENGINE LATHES • TOOLROOM LATHES • TURRET LATHES • ATTACHMENTS



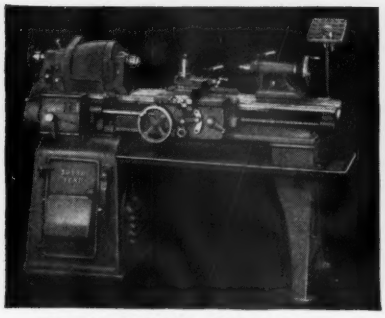
No. 1001-Z SOUTH BEND TURRET LATHE



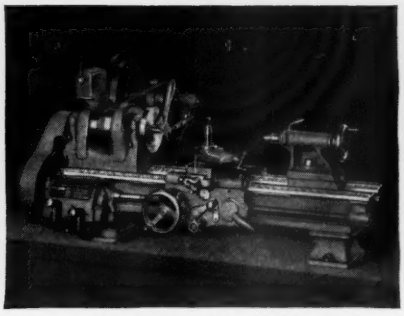
16" x 6' SOUTH BEND TOOLROOM LATHE



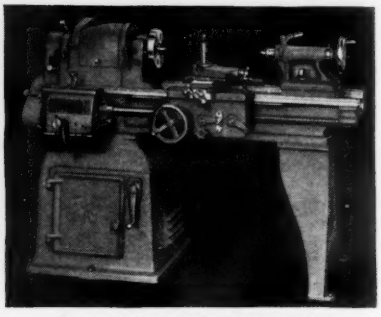
10" x 3½' SOUTH BEND TOOLROOM LATHE



13" x 5' SOUTH BEND TOOLROOM LATHE



9" x 3' SOUTH BEND MODEL A BENCH LATHE



14½" x 5' SOUTH BEND ENGINE LATHE

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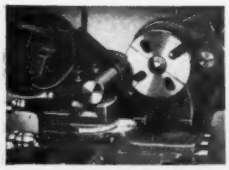
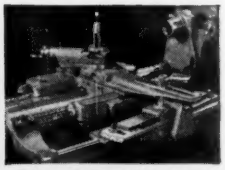


Electric Grinding Attachment

Draw-in Collet Attachment

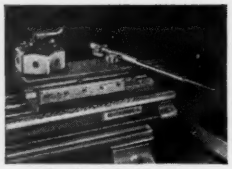
Draw-in Collet Attachment

Center and Follower Rests

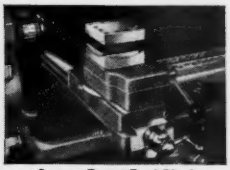


Telescopic Taper Attachment

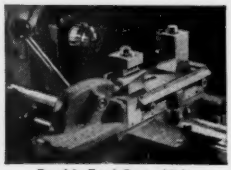
Collets and Collet Sets



Handlever Bed Turret



Square Turret Tool Block



Double Tool Cross Slide

Double Tool Cross Slide

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The Cover

Fifty million years ago the Cambrian Sea covered North America. Today the Wisconsin Dells, with amazing rock formations worn through the ages into weird shapes, are important in the study of American geology. H.H.C.

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American Vocational Association, Inc., advances American education by developing economic competence of youths and adults. The Association promotes the professional interests of persons engaged in vocational and industrial arts education. It encourages full-time and part-time programs in these fields: Agriculture, Home Economics, Business and Distributive Occupations, Industrial Arts, Industrial Education, Rehabilitation, Vocational Guidance.

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Cooperation Not Competition

VOCATIONAL education like many other phases of education has been compelled to fight for its existence and development. In the early days of the development of vocational education in our public schools there were many misunderstandings and misapprehensions on the part of those educators who were engaged in other phases of education. Vocational education was a stepchild, it was an outsider—it was even looked upon as an intruder.

The vocational department of the secondary school not so many years ago was looked upon as the "dumping ground" for all of the problem children and trouble makers of the high school. It was the place to which were consigned those who could not make the grade in the special college preparatory program. Because of this situation, vocational education was for a time looked upon as the educational procedure or program of last resort. Great credit is due our vocational leaders, men and women, who stayed with this program during the difficult years until finally the program has emerged as a respectable program and as one of the accepted and popular programs of the secondary school.

Vocational education is not in competition with general education. It is based upon general education. Vocational leaders and instructors everywhere appreciate fully the value of a sound basic general education as a foundation on which to build the specialized vocational courses.

There is a place and a need for all types of educational effort. Those directing the various phases of our program of public education have long since learned the superiority of cooperation in our efforts to develop the entire program of public education.

L. H. Dennis

Executive Secretary
American Vocational Association, Inc.

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Rural Electrification and the "AG" Teacher

by ***D. W. TEARE***
REA Farm Electrification Specialist
U. S. Department of Agriculture

This ¼ H. P. Repulsion Induction Motor has been made portable

Farmers Need Instruction in Adapting Power to Farm Needs

IN 1935, only one farm in 10 had high-line power. Today more than half of the nation's farms are located within serving distance of lines, and there is strong possibility that 85 per cent of all farm homes will have access to electric service by 1950.

Much rural electrification development is due to the nearly 1,000 farmer-owned and operated electric cooperatives which have been organized by farmers to serve power to their members at cost. These cooperatives borrow the money through the Rural Electrification Administration to build their lines, get into operation as power distributors, and serve their members with dependable, low-cost electric power. Revenue above operating costs is used to retire the 35-year construction loans obtained through REA. Many have made large war bond purchases and extensive advance payments to the government on their debt retirement.

If electric power is to be used as an economical farm tool, the farmer must have certain fundamental information about its use. He will need to reorganize his farm equipment, his farm methods, and perhaps change his production, to make fullest use of electric power. This is a complete revolution of the farm business when compared with a farm operated with gasoline engine, tractor, and horse-powered machines. Farms using electricity as a basis of power must develop an electro-economy providing for new sources of revenue that will pay for the cost of equipment and the monthly power bills.

The program for farm electrification will probably require five to ten years on most farms. When making such a plan, it is necessary to know the extent to which electricity can be adapted to farm work. A total investment of $1,000 to $3,000 eventually may be put into the electrification of the farm business. Hence, every phase of the change should be planned and brought about, step by step. Farmstead wiring should be so installed that it can be expanded without rewiring or other unnecessary expenses. Water-supply needs should be studied and the size of pump installed that will deliver the necessary amount of water when the final development is reached. Buildings when remodeled or built should be planned for efficient use of electric power and light. Machinery should be selected for efficient adaptation to electric drive; and electric power should be substituted for human labor wherever possible. Tools and machines should be replaced as necessary, with either electrically-operated equipment or models that can be adapted to electric power as the program is completed.

Farm work should be planned and equipment installed so that hand labor can be eliminated in certain activities. New processes and methods of handling farm products should be studied or developed which will permit greater and more extended use of electricity. Crops and other products should be produced that will result in a regular monthly income which will permit the payment of electric bills and installments on electrical equipment. Study should be made of the processing of raw products on the farm so that a higher cash return can be obtained when they are sold. Subsistence living should be reorganized to make use of electric power. Garden watering, freezing, electric cookery, and similar applications to food preparation and preservation when properly planned will increase the amount and quality of foods that can be produced for home use. Such methods will so greatly increase the quality and attractiveness of home-processed goods that they will compare favorably with commercially processed food. Markets should be sought that can make use of farm products of higher quality and seasonal production.

The tremendous speed of farm electrification has outstripped the development of adequately trained and experienced agricultural leadership to advise farmers on electrification problems. Today only a few state agricultural colleges offer courses in the fundamental technical problems involved in using electric power in agricultural production. Consequently farmers have looked to city dwellers rather than to rural users for demonstration of electric power applications. As a result, 90 per cent of the power consumed on the farm today is being used with household equipment. Unless farmers are taught how to use electricity productively in agricultural activities, the economic benefits of electrification will be greatly delayed.

A jug of hot water in a tub is an inferior way of brooding pigs

As a group, teachers of vocational agriculture have had little experience in applying electricity to the agricultural programs in their communities. Teacher-training courses in college, almost without exception, were largely in the immediate agricultural fields of soils, crops, livestock production, erosion control, reforestation, and teaching methods. Even had there been time in the crowded college courses, little information could have been obtained on correlating the technical and practical uses of electric power to agriculture, because much was and still is not available in teaching form. There is immediate need for the development of adequate college courses. Skills must be developed in using electric power and in the practical applications which will enable the teacher-trainee to apply electricity to agricultural needs and problems in the communities where he will teach. Textbooks suitable for use in college, high school, and adult classes are greatly needed.

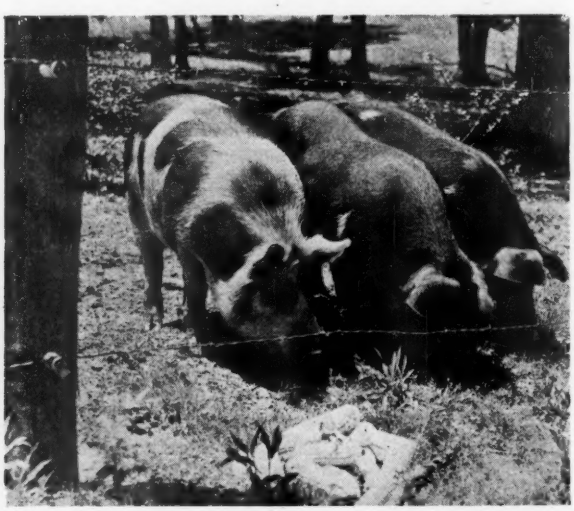
In addition to the problems of training future teachers in rural electrification, there is immediate need for adequate in-service training. Last year the writer had the privilege of participating in seven very brief and limited rural electrification schools for the vocational high school teachers of Kentucky. This was done in cooperation with the teacher-training staff at the University of Kentucky, the state supervisor of vocational agriculture, and the REA statewide association of electric cooperatives. In general, the attending teachers were from communities where extensive rural-line development had been in progress for several years, but most of them had made little, if any, effort to incorporate the use of electricity on the farm and in the home into their teaching programs. When electricity came to the community, the farmers immediately needed assistance in planning their farmstead wiring and lighting, as well as advice and assistance in selecting electrical equipment. Recognizing their need for training in these fields and the community interest already developed, nearly 200 vocational agricultural teachers attended the seven schools.

Special skill is required to plan and incorporate the economic advantages of electric power into the farm business. In some cases the entire farm program could be changed advantageously because of the availability of power. In others, electricity may simply be applied to the existing program, to the economic advantage of the family. In either case the comparatively large investment of capital for electrical equipment and the establishment of a regular obligation in the form of a monthly power bill, require planning and forethought if the family budget is not to be seriously jeopardized. It is essential that all agricultural leaders become acquainted with the practical and technical problems of rural electrification in order to keep up with and assist the farmer in taking advantage of new farming methods and techniques.

In the past this has been doubly difficult because electrification and agricultural specialists talked entirely different technical languages, neither of which was understood by the other. When the fundamentals of electrification are understood by vocational teachers, they can be presented to the farmer in terms of better agricultural practice.

Electrification of a teaching project may be added for the purpose of arousing greater interest on the

An electric lamp heated brooder provides continuous heat in the farrowing pen, and light to enable little pigs to find the sow



Electric fences teach hogs a lesson. If they refuse corn under the wire, it is certain they will not try to go through fences

A stub shaft is provided to mount a V-pulley which is driven with a V-belt from the motor

part of the student, for overcoming some of the natural hazards in most agricultural enterprises, to improve the quality of the product, and in reducing the labor requirements of the project.

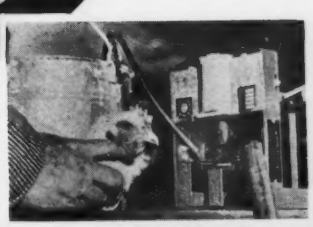
The electric pig brooder is a typical example of the better results which may be obtained by use of electric equipment. Without brooders, losses throughout the country approach 40 per cent of the pigs farrowed yearly. The prospects of a Future Farmer producing a ton litter disappear when an eight-pig litter is reduced to five or three by chilling or crushing in the farrowing pen. Electric pig brooders practically eliminate these two hazards, saving from one to three pigs per litter by providing a warm, safe sleeping place away from the sow. In addition, the construction of a pig brooder is a good shop project, increasing the student's skills in carpentry and elementary electrical work. The double incentive of increased interest and decreased losses frequently results in an outstanding success, increasing the popularity of the vocational agriculture program.

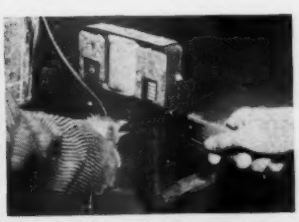
Poultry projects also offer advantageous uses of electric power. Night lights greatly increase egg production in months when prices are highest. Electric immersion-type water heaters insure ice-free drinking water both day and night. Since 65 per cent of an egg is water, the hens must have constant access to water in the winter if the night lights are to be effective.

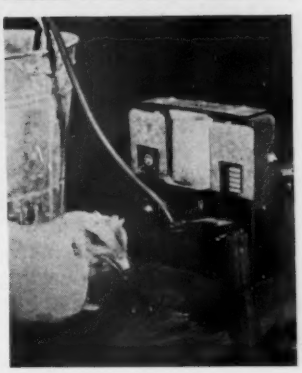
Many other electrical poultry applications can be made to profitable advantage. The debeaker is used to burn off a portion of the bird's upper mandible. This eliminates cannibalism and in addition reduces feed waste by hindering the wasteful "hooking" of mash from the hopper. A Future Farmer with an electric debeaker could earn additional income by debeaking the neighbor's flocks.

Widespread distribution of electrical power is opening the door to future agricultural developments undreamed of today. The TVA development of barn-type hay driers alone offers the farmer an almost uncountable saving in hay from weather loss. In addition, the saving of leaves by gathering the hay before shattering from excessive drying or wetting occurs, adds to the feed value of the legumes. Such increased food content of hay reduces the amount of feed concentrates needed to produce a given amount of milk or beef. As a result of experience in hay drying it is probable that grain drying will develop

Cannibalism can be controlled by an electric debeaker removing part of upper mandible







A portable motor can be attached to this one-hole corn sheller

and become a standard farm practice, decreasing farm loss from heating and mould in stored grains. The same equipment used to circulate air through stored hay can be used to ventilate stored grain.

Farm people tend to delay use of electricity after receiving power, first because they do not have the money for equipment or the monthly power bill, nor do they know how to put power to work to earn its way. Second, their farms already are equipped with hand, gas engine, or tractor powered tools, and few people are adept at making change-over adjustments which are necessary to adapt such equipment to electric power. Third, farmers have become accustomed to wearing out a tool before discarding it. Consequently it does not occur to them to discard serviceable but outmoded equipment nor to alter it for electric power operation.

Agriculture teachers can do much to promote electrification of farm tasks by recognizing both the mechanical and financial problems of converting to electric power. The organization and establishment of teaching programs for high school students, adult farmers, and veterans will find immediate interest because of the practical problems involved and about which little is available from other local sources. The following subjects could be presented: (1) farmstead wiring; (2) farmstead lighting; (3) adaptation of hand-driven equipment to electric-power operation; (4) adaptation of gas-engine powered equipment to electric power; (5) selection of electrical equipment and organization of the farm for extensive electrification.

In the past, students interested in learning to use power tools in the school shop had little opportunity to practice such skills at home. When electric service is available any farm boy can set up an electrified shop at home, beginning with a few simple tools and buying additional equipment as the tools are needed and money available. Many adults are interested in electric welding and more skillful operators can add to their income by welding for neighbors also.

While recognizing the merits of recommended conservation practices, many farmers have found that incorporating new methods into their farm program is very difficult. Strip-cropping and contour farming are typical. Many farmers failed to use these methods of erosion control because of the difficulty of fencing the curved and irregular areas for pasturing. Farmers had neither the material nor the labor for adequate fencing for such areas. In some cases they have passed up the benefits of reforestation, gully control, and the construction of farm ponds because of requirements of fencing the controlled areas. The use of the electric fence is excellent protection for such areas for all animals except sheep and goats, which are protected by their wool and hair and so cannot be confined within the electric fence. Animals once trained to electric fences will make no attempt to pass under or over a wire.

If hogs are afraid to eat corn placed just outside their fence, as shown in one of the photographs accompanying this article, there is little possibility that they or any other animals will purposely come in contact with a charged wire, whether it is smooth or barbed.

One young dairy farmer in Kentucky has planned his entire farm for a pasture rotation program. He uses temporary electrical fence with a minimum of permanent fences. By building good 3-wire, hog-tight fence around the farm he uses one or two-strand electric fences to confine animals into any area, regular or irregular in shape, which he wishes grazed.

The cost of installing such electrification is low compared with the ultimate benefits.

Rural electrification is a nation-wide development that has probably reached more farms in a shorter period of time than any other single agricultural development.

One of the unusual features has been that every community eagerly awaits the coming of "lights." The history of agricultural progress shows no other single development that has found immediate acceptance by farmers, and their families, in all areas on every kind, class, type, and size of farm.

During the year ending June 30, 1946, REA maintained a loan rate of a million dollars every working day for the purpose of providing funds for building additional lines as materials became available. This fund-allocation program is sufficient to pay for the construction of nearly one thousand miles of line each day when full scale construction is under way.

Electric welders can be used for quick repairs in rush seasons

AVA in St. Louis

by L. H. DENNIS

Executive Secretary
American Vocational Association, Inc.

High Interest in Convention to be Held December 4-7

Hadley Technical High School student of applied chemistry

MEMBERS of the AVA Executive Committee have been greatly encouraged by evidences of tremendous interest in the forthcoming AVA Convention to be held in St. Louis, Mo., Dec. 4-7. From many states come reports that attendance will be much larger this year than usual. Every effort is being made to provide satisfactory meeting places and adequate hotel facilities.

Requests for commercial exhibit space are coming in so rapidly that the entire exhibit space will be assigned long before the convention opens. Some interesting exhibits are being planned by some of the fine firms who have been assigned spaces.

Meetings will be so numerous this year that it will be necessary to use the meeting places of two or three hotels and the Bishop Tuttle Memorial Hall.

Special arrangements are being made by some section groups to visit vocational schools, industrial arts shops, industries, and the Purina Mills. Time has been set aside on the convention program for this purpose.

While general AVA headquarters will be at Hotel Jefferson, the DeSoto, Statler, and other hotels are within easy walking distance. If you have not already secured your hotel reservation we urge immediate attention to the matter. Send requests to the AVA Convention Housing Bureau, 910 Syndicate Trust Bldg., St. Louis 1, Mo.

Veterans Training

Several section groups are making provision for a full discussion of current problems involved in the rapidly developing veterans training program. Several representatives of the Veterans Administration will be present to participate in discussions.

It is expected that discussions will clarify some of the difficulties with which vocational educators now are confronted, in making certain inspections and training arrangements. It is possible that some new legislation may be necessary to clarify some issues. This and other matters will be fully discussed.

Agricultural Education

Veterans' on-the-farm training will be one of the spotlight features of the agricultural section. National leaders of veterans affairs have been invited to appear on the program, and there will be a panel of state supervisors and teacher trainers from all parts of the country. Recent developments in institutional on-the-farm training should make this most interesting, practical, and worthwhile.

The George-Barden Act will undoubtedly bring about adjustments in the vocational agriculture program. Plans call for a discussion of this subject by national leaders.

"Methods of Improving the Agricultural Education Program for Future Farmers and Young Farmers," will be discussed by representatives from the U. S. Office of Education and a panel of state and national

Entrance to Hadley Technical High School as seen at night

Booker T. Washington Technical High School auto mechanics

leaders. The Young Farmer program will receive special attention.

The local agriculture department will be featured in one session where a local superintendent, a high school principal, and a number of vocational agriculture teachers who have achieved outstanding distinction will tell their stories.

Last but not least is a planned trip to the Ralston Purina Experimental Farm at Grays Summit, Mo.

Industrial Education

Industrial education state supervisors, teacher trainers, local supervisors, principals, coordinators, and teachers will find programs with specific attention to day school, part-time, and evening classes. Veterans and apprentice training problems will be discussed. Representatives of management, labor, and education will take part and assist and advise the "toilers" as to "where do we go from here."

A general program is scheduled for Thursday afternoon. There will be no programs that morning when all conventioners will visit St. Louis schools.

The girls' and women's group have a program planned by Blanche Nechanicky, New York, chairman; American Association of Technical High Schools and Institutes, and Privately Endowed Vocational Schools have programs Friday afternoon. State supervisors, with H. G. McComb of Indiana as chairman, have on their program Harold Wilson of Kentucky to discuss apprenticeship and Samuel L. Fick of California to talk on training veterans. Teacher trainers, with S. Lewis Land, Penn State College, their president, have three sessions planned.

For the first time there will be a joint session on December 3, at 2 p.m. of the National Association of Industrial Teacher Trainers, National Association of State Supervisors of Trade and Industrial Education, and National Council of Local Administrators of Vocational Education.

"D.O." coordinators will meet Friday afternoon as will those interested in supervisory work. Metal trades, printing, automotive, and building trades all have meetings Saturday morning.

Other speakers are: Dr. Joseph Tiffin, Purdue; Arthur Wrigley, New Jersey; David Jackey, California; Deyo Fox, Michigan; V. L. Pickens, Missouri; G. Harold Silvius, Michigan; Joseph R. Strobel, Ohio; George E. Manley, Alabama; Eleanor M. Zeis, Mississippi; S. B. Keatherly, Tennessee; F. L. Chambers, Missouri; J. C. Woodin, Kansas; Fred Karches, St. Louis; O. D. Admas, San Francisco.

E. L. Williams, Director, Industrial Extension, A & M College of Texas, is program chairman for the Industrial Education section.

Home Economics Education

There will be four meetings, with Miss Minnie Lee Irons of Missouri program chairman. Miss Belle Pollard is in charge of local arrangements. All sectional meetings will be in the auditorium of the Bishop Tuttle Memorial Hall. Home Economics section committees will report their activities and progress Saturday morning.

Industrial Arts Education

Frank Moore, vice president of the Industrial Arts section and his committees, have planned an excellent program opening Wednesday with a discussion of the new AVA bulletin, *Improving Instruction in Industrial Arts*. Homer J. Smith, University of Minnesota, and members of the committee responsible for the bulletin, will discuss its values and uses.

Thursday morning H. H. London, University of Missouri, will conduct a round table discussion and demonstration of construction and use of instructional material. Friday afternoon George Henry, Colorado State College, heads up a group to discuss recruiting industrial arts teachers and their college and post-college training. Saturday morning Samuel Hall, Clayton, Mo., is chairman of a program at which industry will demonstrate new techniques, display new materials, and give away "trade secrets."

Commercial art courses at Hadley include spray gun work

Education for Business

The Business Education division has planned joint sessions, separate sessions, and luncheon meetings for educators in distributive education, office occupations, and teacher trainers. The National Confectioners Association, Associated Retailers of St. Louis, National Office Managers Association, Missouri Retailers, and others are cooperating. Some of the meeting theses include: "The Place of Trade Associations in Vocational Education," "The New U. S. Office of Education and How to Secure Greatest Service under the New Organization," "Plans for Expanding Distributive Education when George-Barden Act Funds are Available, and Purposes for which Funds are Intended," "Responsibilities of Business Education in Training Workers for Retail, Wholesale, Manufacturers, and Service Occupations," "Teacher Training Possibilities under the New George-Barden Act," "G.I. Training Accomplishments in the Various States." What's new in visual aids will be demonstrated and awards will be made to the retailer who has made the most outstanding contribution to training in distributive education and office occupations training.

Vocational Guidance

It is believed that the U. S. Office of Education will have arrived at general policies governing the use of George-Barden funds in time to permit discussion of those affecting vocational guidance at the AVA meeting in December. A poll of state supervisors of Occupational Information and Guidance services indicates a need for considering the problem of guidance services most needed, and vocational education and guidance leaders will hold detailed discussion of desirable relationships between these two services. On the basis of the discussions growing out of this session, a later session will explore the field of counselor training and adequate counselor training programs on the state level.

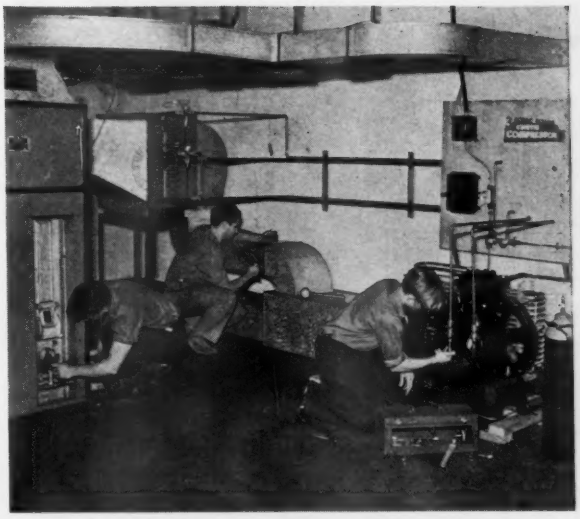
Increased emphasis on placement and follow-up programs will be the topic of one meeting. Follow-up studies of school leavers as a means of evaluating vocational education and vocational guidance services will be the object of intense consideration.

Part-Time Education

Special attention will be given to the needs of and possible service to out-of-school youth and adults through part-time educational programs. The George-Barden Act provides an important amendment which will permit the inauguration of almost any type of vocational course needed.

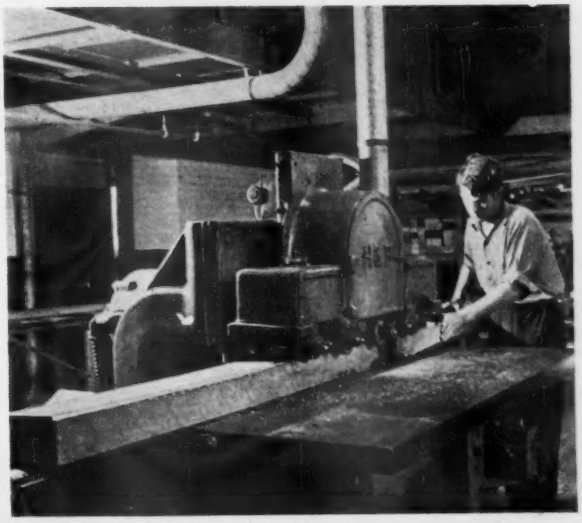
A panel Wednesday afternoon on "Problems and Opportunities in Vocational Education for Out-of-School Youths and Adults," will be followed by a symposium Thursday on "What Communities Have Done to Provide Vocational Education for Out-of-School Youths and Adults."

Efforts are being made to give definite recognition to this important phase of vocational education on one of the general programs. The AVA is in process of selecting a special AVA committee to consider problems and opportunities in vocational education for out-of-school youths and adults.



Air conditioning course at the David Ranken Trade School

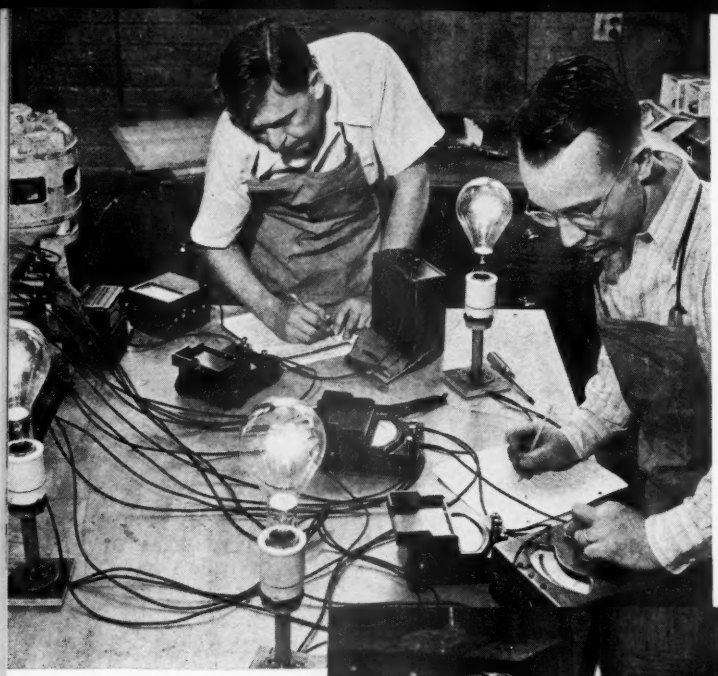
St. Louis County Vocational School gives sheetmetal work

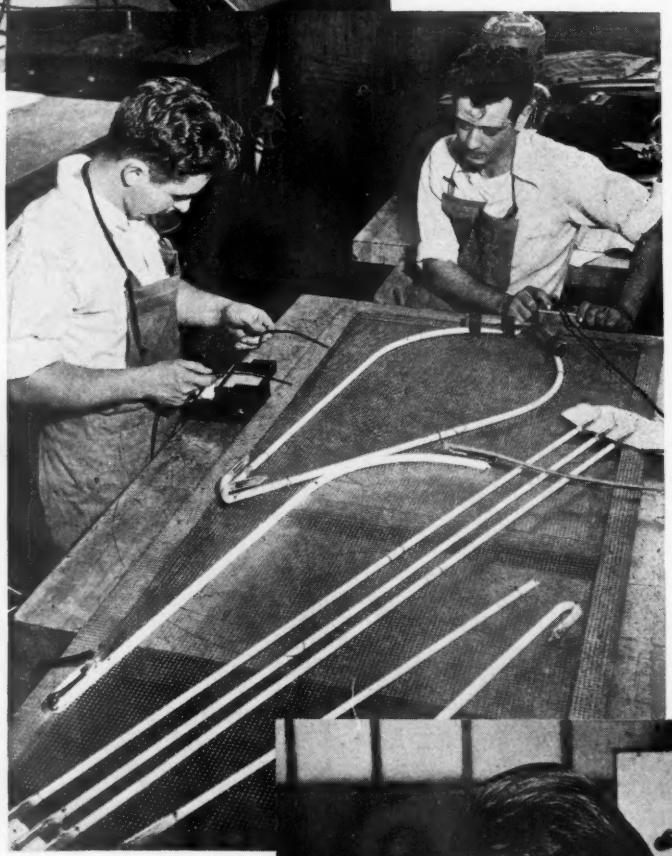


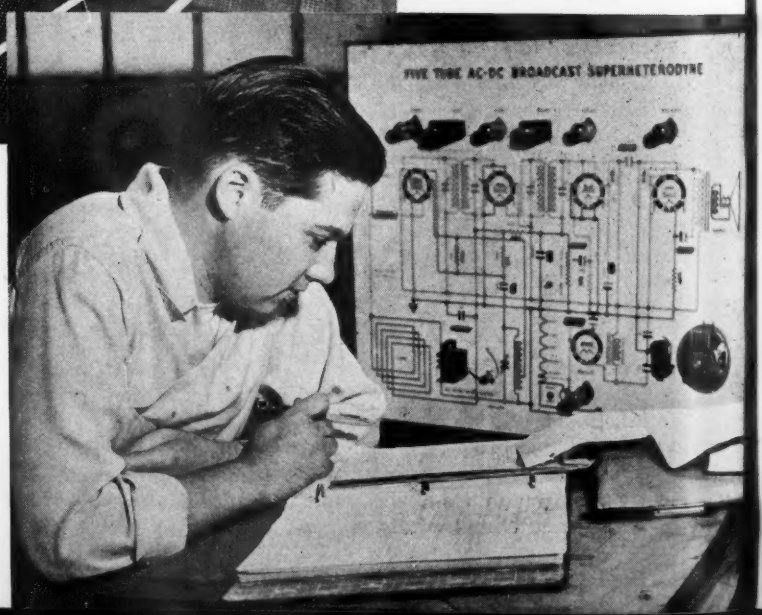
Woodworking machine operation in Hadley mill work course

by **PHILIP L. McNAMEE**
Assistant Superintendent of Schools, Chicago

ELECTRONICS







Above, a three-phase transformer experiment is performed; center, neon tubing being tested by students; below, checking circuit for trouble.

Chicago Develops Program To Parallel Industrial Innovations

at Washburne Trade School

INTRODUCTION of electronic controls in the electrical field has come so swiftly that few journeymen who are called upon to install such equipment have sufficient information to deal with it. The Chicago Local Union B-134, I.B.E.W., attempted to meet this situation for its members by holding classes at its headquarters one night each week. Interest grew until facilities were overcrowded. In the meantime, I.B.E.W. held courses at Marquette University, Milwaukee, Wisconsin, to prepare men of the various local unions to instruct their members.

The vocational department of Chicago public schools, anticipating a request for this instruction, granted a leave of absence to one instructor, Edward Moran, enabling him to participate in the program at Marquette.

From surplus equipment available from military sources, electronic devices and measuring instruments were secured for use at the Washburne Trade School. The first course opened in the evening school with an enrollment of 145 journeymen electricians. Of this group, 95 attended throughout the year and completed the course.

The electronic class ran from October 1 to June 10, one evening each week. Alternate evenings were given to lecture and laboratory work. The first five weeks were spent reviewing electrical fundamentals, in consideration of the many new instruments and special pieces of equipment.

Members of this first class in electronics were found to be journeymen electricians with 10 or more years in the occupation. They were maintenance men in industrial plants, power plants and substations, office buildings, department stores, and hotels. Attendance at school, in some cases, had been discontinued with completion of apprenticeship.

Attention was given to review of Ohm's Law, series and parallel circuits, inductance, capacitance, resonance, and instruments such as voltmeters, ammeters, and wattmeters. With the ability to use these instruments again, the journeymen were introduced to vacuum tubes, rectifiers, amplifiers, photoelectric tubes, oscillators, and control tubes. A study was made of the use of gaseous tubes—phanatron, thyratron, and ignition. Having provided a basis for the use of special instruments, students were given work in the use of voltohmmeters, vacuum tube voltmeters, tube testers, capacity testers, and the Wheatstone bridge, cathode ray oscilloscope, audio oscillators, and circuit analyzers. While using these instruments, practical circuits used in the application of electronics were discussed.

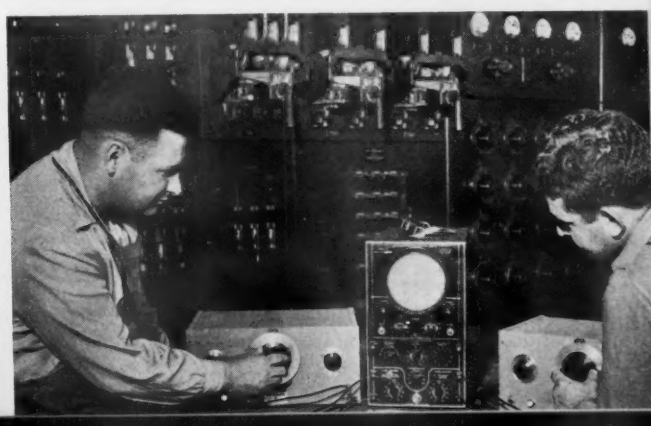
Laboratory work accompanying the theory was of an exploratory nature. Circuits were set up to include as many as possible of those discussed in the theory classes. Through the use of the instruments students verified the theories presented in the lecture classes.

Supplementary to theory and laboratory classes, films on the various phases of electronic work were used at intervals. Of special interest to those considering introduction of a course in electronics are the following slide sound films: *Industrial Electronics,* General Electric Co.; *Electronic Fundamentals,* Westinghouse; *Taking the Mystery Out of Power Factor,* General Electric; *Cathode Ray Oscilloscope,* a set of 49 slides by W. Richter of Allis Chalmers.

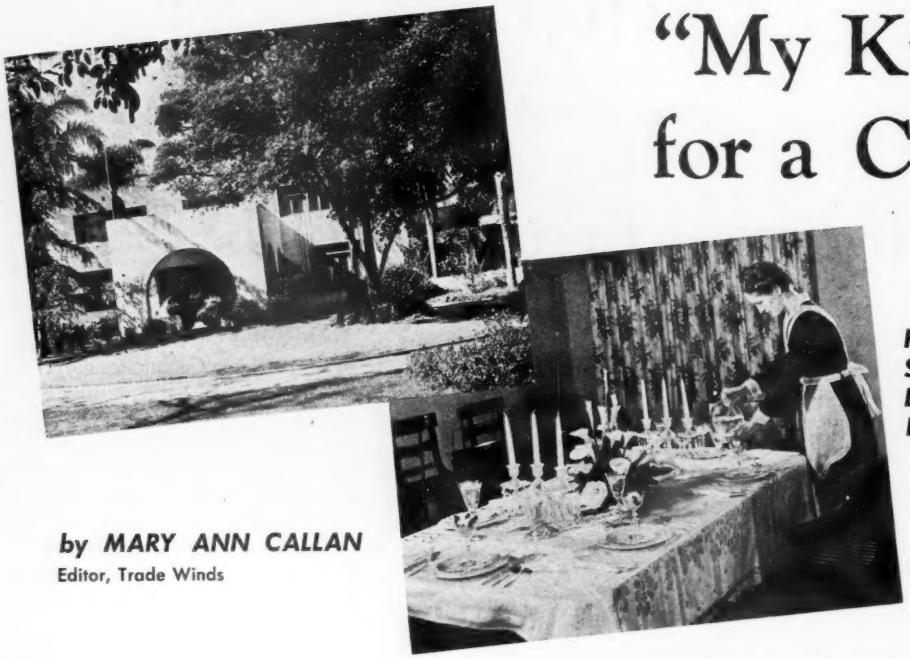
Other special films used with the course were: *Industrial Electronics* (sound film), Westinghouse; *Thymotrol Drive Unit, Practical Demonstration and Explanation,* General Electric; *Automatic Pilot Control* (sound motion picture, color) and *Demonstration and Explanation of Electronic Potentiometer Pyrometers,* Brown Instrument Division of Minneapolis-Honeywell.

Students should learn both to test and repair radios

Working with oscilloscope and audio signal generators



"My Kingdom for a COOK!"



Frank Wiggins Trade School in Los Angeles Develops Program for Domestic Service Field

by ***MARY ANN CALLAN***
Editor, Trade Winds

Frank Wiggins Trade School Annex has equipment and curriculum for training men and women to enter domestic service

THE war has ended but the household service shortage remains!

In an effort to help alleviate it, a training program is in progress in Los Angeles at the Frank Wiggins Trade School expressly for men and women who wish to enter the domestic service field. In this carefully-planned training program, the home service trade has become a well-rounded and efficient business in which every step is made to count and where definite wages and hours are recognized as a prerequisite for happiness on the job.

The course is 150 hours in length and includes menu planning, marketing, cleaning, cooking, flower arranging, hostessing, butlering, planning and carrying out teas, buffets, parties, and luncheons.

The day begins at 9 a.m. when Mrs. Harriet Hentges, instructor, discusses the day's menu and works with the students in its planning. Then assignments are given. A kitchen hostess is appointed daily to supervise the work in the kitchen and to arrange the serving of the meal. A dining-room hostess is named to answer the door and phone, and supervise general running of the home.

The class trains for six hours each day and has a luncheon, tea, or buffet dinner to plan and prepare. On holidays such as Thanksgiving and Christmas, special dinners with a complete turkey menu are prepared by the class.

Because of shortages in several foodstuffs, Mrs. Hentges has altered the marketing instructions. Now one or two of the students accompany her on shopping tours and learn first-hand of the buying problem of the homemaker.

Many students enrolled in the class are beginners while others know a little about cooking and meal-planning. Regardless of past experience, every student must learn the complete course. Because of the present demand for household service workers, some leave before the 150 hours are completed to take positions in homes in Los Angeles and vicinity.

In keeping with the efficiency-on-the-job standard maintained by the Frank Wiggins Trade School, students who complete the training hours at the Annex must give six months' satisfactory service in employment before a diploma (certificate of efficiency) is issued by the school. They must prove themselves in their trade before the diploma is earned.

The Annex has prepared a booklet, "Household Employer - Employee Relationships and Standards," which has been given wide distribution not only in Los Angeles but elsewhere. It is the first organized attempt to set forth, in tangible terms, a definite work schedule and it offers authentic counseling information for those directing individuals into this employment field. The entire program is designed to promote a happier condition of work and a more efficient environment through understanding by both parties of the type of work desired.

The training program began April 17, 1940, when the board of education completed furnishing the 14-room house at 950 N. Kings Road. The need for a course to train in both household work and catering prompted the action. Every attempt has been made to equip the house as a real, modern, comfortable dwelling.

As a pioneer in the field of household service standards, the Frank Wiggins Annex hopes to further understanding between employer and employee and so create more pleasing, efficient, and happy homes both in this community and throughout the nation.

Education or Training?

"To prepare us for complete living is the function which education has to discharge."

—Herbert Spencer

by STANLEY J. PAWELEK

Supervisor of Industrial Education Baltimore, Maryland

THE On-the-Job training program for veterans poses another of the perplexing problems which vocational educators have faced during the years. Even when compared to the War Production Training Program, it assumes major proportions and offers opportunities for a contribution which is probably without precedent.

The prime concern, currently, is what shall be done in related subjects offerings. With the diversified array of occupations which comprise this program, vocational leaders are in considerable dilemma regarding the type of courses to teach, how to organize the classes, where to find instructional materials, and how to overcome the problem of small or heterogeneous groups. A crossroads automobile mechanic may sit in a class composed of store clerks, machine shop apprentices, carpenters, and clock repairers. He will eventually be a garage owner performing all of the repair jobs that come in; he may sell automobiles, operate a filling station, and even serve meals and sell groceries. What type of related subjects should he be required to study? How can the teacher provide for his needs and those of all other class members?

"Individual instruction," someone will say, but that constitutes only the mechanics of the program, and is a relatively simple problem. The vocational educator's concern is much more profound. What shall be the philosophy undergirding the program? What are the areas of human knowledge which will assist in the education of these veterans, to supplement the training which they are receiving on the job? Someone must provide the answers or vocational education will miss the boat.

George H. Fern in his excellent editorial, "What Do You Think?" in the June, 1946, issue of the American Vocational Journal, advances a bit of philosophy which should become one of the foundation stones in planning for assumption of this new responsibility. The implications are quite obvious, not only for vocational education in general but also for the On-the-Job program for veterans. Undoubtedly a partial answer to the questions is to be found in this paragraph:

"The thoroughly trained worker-citizen must be able to take his place in the community as a recognized individual force, and make a contribution to community life. He should not hesitate to attend public meetings or banquets, should not be afraid to offer suggestions, should know something of parliamentary procedure and should be able to preside at such gatherings. Too frequently he leaves all such articulation to others, not because he does not have worthwhile ideas and good understanding of his local or state needs, but because of a feeling of inadequacy. Every worker finds a need for such abilities when he reaches adulthood and too often does not realize his handicap until then."

This group of on-the-job trainees is studying functional English as part of their training in the veterans institute at Baltimore

Is it not feasible to suggest that there should be a division of responsibility, in a measure, for the education and training of the veterans? Could a plan be effected wherein industry and business supply the training necessary for doing the job for which the veteran is paid, and the schools supply the education necessary for complete living? Affirmative answers to these questions do not infer that educators are afraid of the job or wish to "pass the buck." They simply indicate that for the good of the veterans and for education as well, it seems best to do it that way. Educators admit that the job of providing technical related information for the hundreds of jobs which now are on the lists, is a colossal undertaking, but not that they cannot or do not wish to do it. The schools can serve more effectively through another approach.

Regardless of occupation, a worker-citizen is called upon to do and know many of the things quoted from Mr. Fern's paragraph, and hundreds of others. He should speak, read, and write the English language with a fair degree of proficiency. He needs a basic knowledge of mathematics. He should be relatively conversant with the scientific phenomena in his environment. A knowledge of the fundamental rules of health, how to get along with people, consumer information, and topics generally categorized under the heading of social studies would be helpful in his everyday life. Some skill in, and a knowledge of drafting techniques are surely essential in almost all areas of business and industry, and very helpful to ordinary home owners or just plain citizens. A general acceptance of these statements would not only bring the problem into bold relief with a clearer definition of the school's responsibility, but would also permit of a better educational program from which the veteran would receive lasting benefits.

Assume that there are two types of related instruction: (1) that which is absolutely necessary for doing the job, and (2) that which is good to know for general civic efficiency. One is an over-the-shoulder instruction leading to proficiency in trade or business; the other is a classroom teaching and learning situation leading to general civic intelligence as well as contributing to the first. Should business and industry be responsible for the first, with the assistance of the schools if needed, and the school assume its rightful role in the education of these men? This appears to many to be not only a practical and beneficial approach but also a sensible course to follow.

Spencer, many years ago, made the statement quoted in the beginning of this article. If schools are to educate for complete living they must analyze what constitutes complete living—that is the vocational educator's procedure. Referring again to the statements in Mr. Fern's editorial, there are certain knowledges and skills that are sorely needed not only on the job but much more so outside of the job. A worker-citizen works only about eight hours a day but he lives 24. He needs some tools which will enable him to earn a living and others which will assist him in mingling with other worker-citizens in many different situations. If the schools do not supply these, who will? The government provides a kit of tools for all who need them to pursue a trade, but leaves it to other agencies to supply him with the more important tools for living in a Democarcy. Shall the schools meet the challenge and through the so-called related subjects, fill the gap which is apparently badly needed?

The related subjects offered veterans would differ very little from those offered in the better vocational schools over the country. The three generally accepted under the Smith-Hughes Law (science, mathematics, and drawing) would, of course, form the nucleus. Functional English would be added and social studies to supply phases of general education which are sometimes omitted in vocational schools or receive only minor emphasis. The following suggested topical outlines of units to be taught in each area will serve as a guide to teachers and administrators who are concerned and interested:

- Functional English, (8 units)—Getting acquainted with words, putting words together, punctuation, writing good letters, making speeches, using English on the job, using the telephone, the art of conversation.
- General Science, (25 units)—Matter; forces of nature; water; liquids; air; simple machines; work, power, energy; heat; strength of materials; electricity; light; sound; gases; metals and alloys; abrasives; solvents; paints, varnishes, lacquers; adhesives; oil, greases, fuels; foods; plastics; living organisms; coal tar derivatives; acids, alkalies, salts; atomic energy.
- General Mathematics, (9 units)—Review of fundamentals, fractions, decimal fractions, percentage, money, linear measure, square measure, cubic measure, shop formulae.
- Social Studies, (14 units)—You are responsible, you and your future, man and his environment, what made America strong, you and your health, get a square deal when you buy, the important kinds of work, how to get along with people, what you should know about business, what are the regions of commerce?, your city and your state, working things out together, how has Democracy grown?, what makes us a world power?
- An Introduction to Drafting (6 units)—What is drafting? drawing different kinds of lines, picture drawings, three and two view drawings, the technique of lettering, dimensioning.

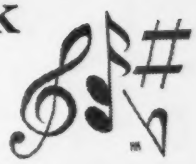
The outlines mean practically nothing unless the teachers have caught the spirit that is needed to teach veterans. They are adults and realistic ones. They have learned to strip all assignments of the non-essentials. It was a matter of life or death to them not to be burdened with anything not necessary. Teachers of related subjects must likewise stress the practical and the functional, leaving out dead wood in all teaching. Enthusiasm should mark all activities in the classroom. Class instruction is very important, yet each student should be permitted to progress as rapidly as his abilities and interests permit. Let this program prove to be the most lively, most interesting, most helpful, and most educative that our schools have ever conducted.

Education or training? Both are needed and both will be well done if each does his part well—industry, business, and vocational education working together to educate a large and important part of our population. What a team!

Adult Education Goes to the Park

Now Omaha Business Men Are Sponsoring "Community Sings"

by MRS. LEOTA TRAVER
Family Life Teacher, Omaha Public Schools



"DISCOVER a need and act," is a principle of Adult Education. From 21 to 2,100 is a big jump, but not too big, for the by-products of adult education develop fast when a real need is met. The Garfield Mothers' Cub of Omaha, Nebraska, with a membership of 21, realized a need for family recreation and saw possibilities in their neighborhood.

Garfield School is one of the older, smaller schools of Omaha located not far from the business section of South Omaha in a thickly wooded section between hills which make it seem isolated and inaccessible. Because of the small enrollment, Robert Brown serves as principal of both this school and an adjoining school and has created an atmosphere favorable to adult activities.

The Garfield neighborhood comprises wage-earning people from industrial-labor to semi-professional employment. Many second generation nationalities are represented but there is no acute nationality or race problems. The small and medium-sized homes are in good repair; transient and permanent occupancy are balanced. It is a community shot through with all the interests of an industrial city—lodges, churches, labor organizations, shows, sports, commercial entertainment, civic and service clubs. Wholesome family life thrives fairly well. Near Garfield School is Spring Lake Park, known for its beauty of hills, trees, and views. This park has been popular with neighborhood groups but has not been used greatly by the larger community. Many South Omaha people have suggested community singing there, but nothing was done until the Garfield Mothers' Club took the initiative.

Mrs. Elizabeth Riner, supervisor of homemaking education for the Omaha Public Schools, received a request in October, 1944, for help in promoting adult classes in Garfield School. A family life teacher was assigned to confer with a committee and a Garfield Mothers' Club was organized to sponsor an adult class, working with the P.T.A., and for developing abilities to make family life happier and more successful.

Regular monthly meetings devoted to earnest consideration of family life education have kept the organization steady, consistent, and sound. The teacher has worked with planning committees, assembled study material, assisted with discussions, conducted special meetings, and served as advisor for many special projects. Most of the regular programs have been presented by members.

A number of these young mothers had grown up in small towns where they were part of an active community life. They needed help in creating such opportunities for themselves and their families. Activities took shape—by-products of adult education: Play groups for little children, home parties including husbands and children, box socials at school, home talent entertainments, family picnics at Spring Lake Park.

Singing followed a picnic in the park and was popular, so twice a month last summer the Garfield Mothers and their families gathered for singing in the park. Song sheets were mimeographed, more and more persons joined the group, and Mrs. Arthur Fenger became director. One evening when about 500 people gathered, they caught the attention of the business men of South Omaha and developments came fast. Representatives from the Garfield Mothers' Club were asked to meet with the South Omaha Civic Council. They presented their ideas, asked for help, and the Council voted to promote weekly sings for the summer of 1946. A 2,100 attendance was the goal.

Garfield Mothers remained in the lead. They have worked tirelessly for every activity affecting their club and community. Two mothers, Mrs. Theodore Svoboda and Mrs. Thomas Moore, were elected co-chairmen and Mrs. R. F. Worley secretary of the Spring Lake Community Sing Organization, backed by 25 South Omaha civic organizations.

Restaurant Owners Want Training

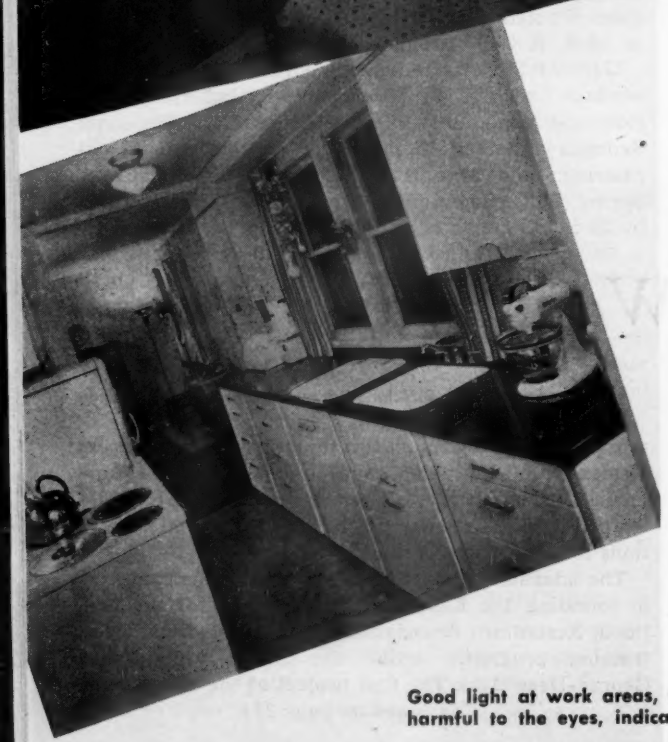
by ALBERTA MACFARLANE
Educational Director, National Restaurant Association

RESTAURANT operators today are receptive to and anxious for training. While some have programs in their own restaurants many must depend on group training apart from the bare essentials they give. Trained personnel can do a more effective teaching job than untrained persons and restaurant operators, and supervisors are desirous of learning to be more efficient instructors. This is where the supervisor of distributive education can be of value.

Of the four M's required for a business venture—Men, Money, Machinery, and Materials—the first is most important. Competitors may have equal access to money, to a suitable set-up, to materials and equipment. Leadership necessitates an organization of well-trained workers superior to those holding similar positions in competitive organizations.

The educational committee which was instrumental in founding the Educational Department of the National Restaurant Association first requested employee training programs under the Smith-Hughes and George-Deen Acts. The first project of the educational

(Continued on page 28)



A TOOL for B

by HARRIET C. BRIGHAM

REA Home Economist, Western Region

PEOPLE flip a switch for electricity, turn a faucet for granted. Electricity has brought about many improvements in industry, agriculture, transportation, communication, medicine, and the arts and sciences, all affecting directly or indirectly everyday living.

Educational leaders have both the responsibility and the opportunity to prepare young people to work and live in a machine-powered world. The important broad objectives should help the student to attain: (1) A thorough knowledge of the fundamentals of electricity and its applications; (2) knowledge of planning for adequate wiring and lighting for the home and farm; (3) knowledge of factors involved in selection of electrical equipment and appliances to meet special needs of the individual and his family situation; (4) a degree of skill in the operation and care of equipment, including simple repairs; (6) attitudes and appreciations for the vast amount of electrical energy available and ways in which it can be used for full service, both urban and rural; (7) some knowledge of scientific advances in development of electrical devices; (8) appreciation of social and economic benefits derived from the availability of low-cost power for rural people; (9) an insight into the development of small rural industries made possible by extension of central station service to rural areas; (10) some knowledge of vocational opportunities in the field of rural electrification.

Widespread distribution of electricity in urban and rural areas is an accepted fact. What electricity can mean in terms of better living for the family and the community should be better understood. The time and energy saved by electricity can be directed toward economic self-sufficiency, individual development, cultural development of the family, and wider participation in community affairs.

Farm families need guidance in making expenditures for wise use of electricity for their homes and for increased income. Those who already have electricity need help in selection and use of equipment and in its care and repair.

In Home Electrification, the meaning should be taught of such terms as watts, volts, amperes, cycles, alternating current, direct current, horsepower size of motors, single phase, two-wire or three-wire meter; the meaning of mazda, fluorescent, ultra violet, heat, bactericidal lamps and their applications; kilowatt-hour and what it signifies in benefits received when it appears on the monthly bill. This should entail a knowledge of how to read the meter and to calculate the cost of using various appliances and fixtures.

Good light at work areas, and absence of glare or sharply contrasting shadows which are harmful to the eyes, indicate well-planned lighting in living room, bedroom, and kitchen

BETTER LIVING

Electrical Conveniences, Their Uses and Values, Should Be Part Of Instruction in Homemaking

People need information on the adequacy and safety of electrical service; two-wire and three-wire service; fuses and circuit breakers and their significance in the wiring system; correct methods for replacing blown fuses and for locating trouble before resetting the circuit breaker or replacing a fuse. It is important to understand circuit capacity and the numbers and types of circuits so that appliances or lamps are not connected on an already loaded circuit.

The National Electrical Code includes strict rules and regulations set up by the National Board of Fire Underwriters. The seal of the Underwriters Laboratories on an appliance means that it meets the standards and is mechanically and electrically safe to use.

Good lighting makes the home more comfortable and attractive and increases the productivity and safety of the household and the farm. This is one field in which the basic principles should be known and definite applications made in the home and school as well as in the income-producing areas.

In the accompanying pictures light sources are shaded; fluorescent lamps are shown in the bedroom throwing the light directly on the face. Note also the lights at work areas in kitchen and bedroom; that the walls and ceilings are in light tones which have a high light-reflecting value; the absence of glare and sharply contrasting shadows both of which are harmful to the eyes. There is adequate light for general seeing and for close seeing tasks.

In subject-matter, the topics can be treated under the following headings: lighting and wiring, laundry equipment, running cold and hot water, refrigeration, frozen storage, cleaning equipment, major cooking appliances, small cooking appliances, miscellaneous home appliances, income producing appliances and fixtures, and work simplification as it applies to all the jobs which are done with these tools.

For individual types of equipment, information should include such selection points as the amount of money available for this purchase, the needs of the family, space available for use and storage of equipment, time, money, and energy savings which will be effected, tasks to be done and added uses to which equipment can be put. Other factors which must be considered are reliability of the manufacturer, dependability of the dealer, and availability of servicing, should it be needed. The appliance should carry a safety approval of the Underwriters Laboratories.

Additional selection points to consider are sturdiness of construction, durability of finishes, simplicity of design, convenient controls, ease of cleaning, a nameplate with plain and complete information, and understandable and complete instructions for use.

In using equipment, follow the instructions which accompany the appliance and file instructions for future reference. Plan the arrangement and location of equipment to be easily accessible or easily plugged into the proper circuit. Disconnect the appliance when not in use. Grasp the plug cap to connect or disconnect the appliance. Treat cord carefully keeping it free from dirt and grease, moisture and kinks. Hang over pegs or two hooks or coil loosely to avoid sharp angles. Repair frayed or broken spots. Keep motors clean and dry, learn oiling instructions. Never immerse heating elements or motors in water. Check regularly for loose connections. Keep nuts, bolts, and screws tightened. Do not overload or overheat appliances. Remember these safety precautions: disconnect cords and appliances from outlets before oiling, cleaning, or making repairs. Refer major repairs to servicemen. Keep equipment in good repair, examine regularly for wear, and make repairs immediately. Use rubber tape under friction tape for splices. Do not run cord under rugs or over sharp nails or angles. Pull the house switch before replacing a fuse and use a fuse of the correct size for the circuit.

Attention should be called to community uses of electricity in class instruction.

Greater curriculum emphasis is needed on training in the fundamentals of electricity in its application to home economics and farming, and in the use of all new electrical tools of importance in homemaking.

Walls and ceiling painted for high light reflection

Photos courtesy General Electric Co.

REORGANIZATION

Vocational Division of U. S. Office of Education Now Has Three Branches

by R. W. GREGORY
Assistant U. S. Commissioner for Vocational Education

TO JUSTIFY his membership in American economic society, every American citizen must perform some work or render some service. Education for purposeful work is recognized as an objective of national concern by Congress in the form of the Nation Vocational Education Acts.

Programs of vocational education in the states have been developed to serve the occupational fields of agriculture, business, trades and industry, and homemaking. It is the function of the Vocational Division of the Office of Education to contribute to the further development of these programs by rendering ever increasingly effective service to State Boards for Vocational Education and their staffs.

The program plan of the Division is threefold. It is directed toward:

(1) **Leadership**—The Division has general responsibility for aiding states in developing programs of vocational education, comparable to that which other divisions of the U. S. Office have for other areas of educational need.

(2) **Responsibilities for Administering Grants under the Vocational Education Acts**—The Division discharges those responsibilities for which the Office of Education has an obligation by virtue of the Vocational Education Acts which provide grants of Federal funds to states for specific educational purposes.

(3) **Program Development**—The Division seeks to make a contribution to the efficiency of vocational education programs by means of those activities which lead to improvement in the quality of vocational education in keeping with advances in educational practices and changes in the technology and practices of the basic occupations for which vocational education is provided; that is, a discharging of a responsibility for protecting the investment of funds made available by the National Vocational Education Acts to the end that the greatest possible returns in the way of educational outcomes are obtained.

In order to more effectively serve and achieve these ends it was necessary for the Vocational Division to adjust to changing conditions and practices in its organizational and administrative structure. The reorganization effected provides for the reassignment of the staff of the Division to three established branches. It is hoped that the functional readjustment and reorganization of the Vocational Division which was initiated in July, 1946, will be completely effective by July, 1947. The basis of the program is in the work of three branches which have been established as follows:

State Plans: Financial and Statistical Operations Branch—Programs of Federally-aided vocational education in the states have their genesis in and stem from a State Plan prepared by the State Board for Vocational Education and approved by the U. S. Office of Education. Not only are State Plans for the operation of the programs in the states required by the National Vocational Education Acts but expenditures for the purposes set forth in the Acts must be made in accordance with the State Plans.

These conditions, therefore, make it necessary for the U. S. Office of Education to establish and maintain working relationships of contractual character with the State Boards for Vocational Education. It is for the purposes of discharging these responsibilities that the Vocational Education Division established the State Plans: Financial and Statistical Operations Branch.

It becomes the function of this branch to process the State Plan as proposed by the separate State Boards for Vocational Education, leading finally to its approval; to establish allotments of funds to the respective State Boards and to certify these funds in accordance with the provisions of the appropriating laws and the policies of the Office; to audit the accounts of the State Boards with respect to the expenditure of Federal funds certified to them for specific purposes in the field of vocational education; to ask for and receive from State Boards appropriate reports with respect to the expenditure of funds and the development of programs including statistics upon classes conducted; to analyze and compile reports received from State Boards and to have the information contained therein prepared for reports (and other types of publications) and for the use of the Commissioner in reporting to Congress and the people upon the development of vocational education in the United States resulting from the provisions of the National Vocational Education Acts; to assist in the preparation for publications, particularly for state and local workers in the fields of vocational education, administrative, supervisory, and instructional documents, outlines, and information for the further improvement of vocational instruction in the states and local communities; and finally, to make available to the staff of the Vocational Division all of the resources on vocational education garnered from its states' relations function.

Program Planning Operations Branch—During the first quarter of a century of the life of the National Vocational Education Acts, vocational education had a steady enrollment growth in the four occupational areas of service—agriculture, distributive occupations, homemaking, and trades and industry. Much of this growth, however, as it was attained by any individual type of vocational education service, was attained with

a minimum of relation to the growth in each of the other types of service. The need was so great and the areas to be served so vast that the demands made upon each individual type of service left all too little time to the leaders working in that service to give comprehensive consideration to its relation to other aspects of vocational education or to education as a whole. It has become necessary to give more extensive consideration to plans and operations that work toward coordination in the development of vocational education programs in the respective fields of service.

Program planning becomes increasingly necessary if unmet needs for vocational education are to be satisfied economically and efficiently. As a consequence, a second branch of the Vocational Education Division, the Program Planning Operations Branch, has been established. This branch is made up of the Chiefs of the respective services and their staff members. The branch will function mainly through the work of the Program Planning Committee which is made up of the Chiefs of the respective services and the Chief of the research service in the division. In addition, largely for purposes of liaison, the assistant directors of the two other branches in the division are members of the Program Planning Committee.

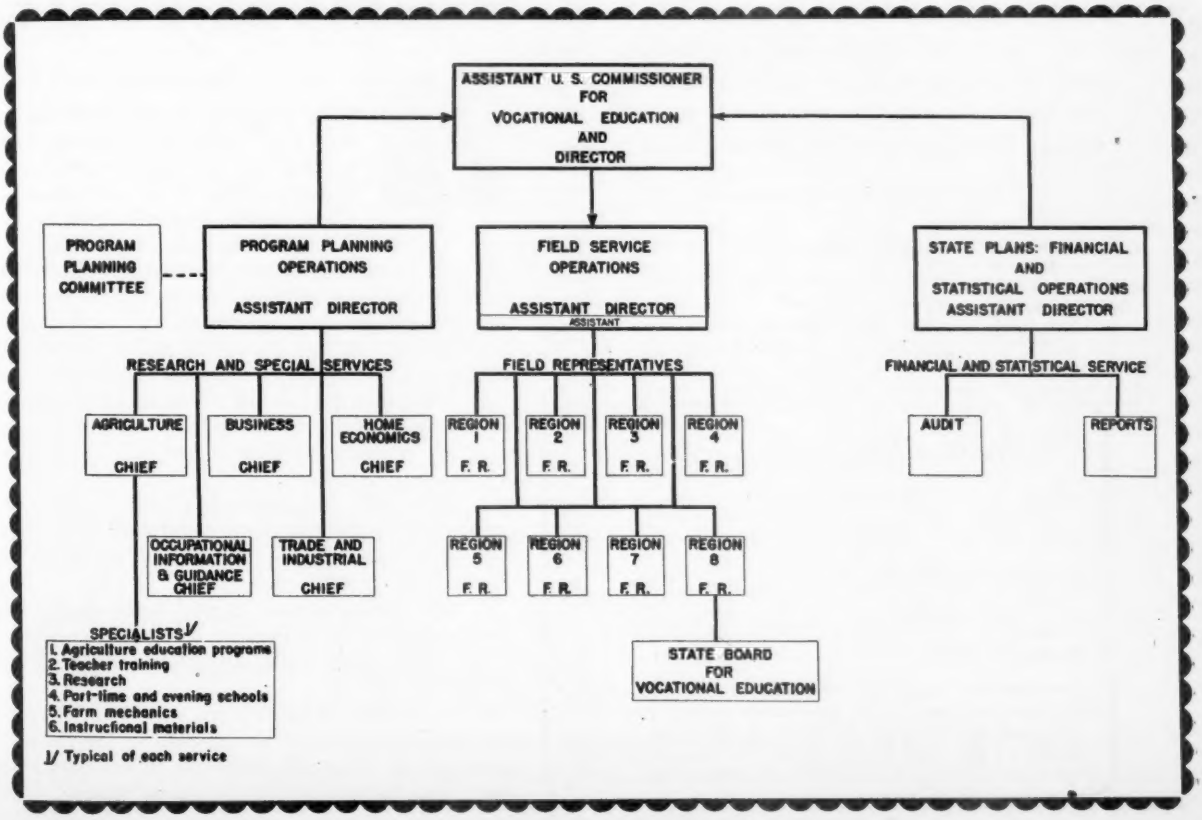
In brief, the Program Planning Committee has responsibilities for working cooperatively with the states in the overall planning of the program of vocational education. The Committee will function from the vantage point of being able to look at the total situation in the United States with respect to the need for vocational education generally and comprehensively; and with respect to the need for vocational education specifically by occupational interests and needs. The specialized personnel of the Program Planning Operations Branch, functioning under their respective chiefs, have responsibility for servicing the development of the program of vocational education in the states and local communities as their services are planned for and requested by the respective states and local communities.

Field Service Operations Branch—To carry the work of the Vocational Division to the field, a third branch was established, the Field Service Operations Branch. The activities of the Vocational Division can be justified only insofar as they assist the states in the organization and development of complete and adequate programs of vocational education to meet the needs of the people. This branch is made up of a staff of regional field representatives. It becomes the function of the Field Service Operations Branch to work with the State Boards and their administrative personnel, the executive officer and state director, to the end that the states and local communities more effectively than ever before plan for and conduct efficient and effective programs of vocational education.

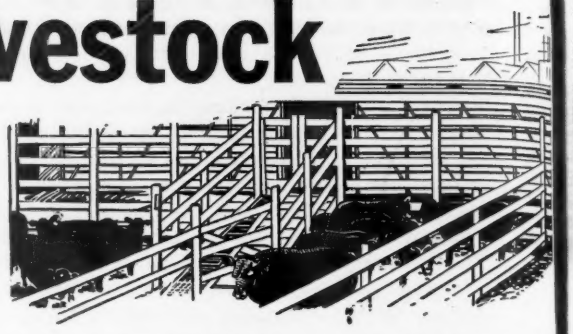
It is the responsibility of the regional field representatives to indicate to the respective state board officials some of the overall planning being done by the Program Planning Operations Branch as a guide to them for their own planning at state and local

(Continued on page 31)

Division of Vocational Education, U. S. Office of Education



Hotels for Livestock



The central livestock market is as American as the "hot dog." No other country has the like of it. European sellers and buyers haggle over individual animals. In South America most of the dealing is done right on the *estancias*, where the livestock is raised. But here in the leading livestock nation of the world, for 75 years central markets have played a big part in the job of moving meat toward dinner tables of the United States.

When a carload of livestock rolls off the prairies or out of the mountains into one of the 65 or more great central markets, the animals are "greeted" and "registered" at the unloading dock, much as travelers are received and registered in hotels. From there they are sent to their "rooms"—the pens assigned to the commission man to whom the owner has shipped his animals. There these hogs, cattle, calves and lambs are rested and given food and drink.

Just as hotels compete for guests, so these central markets compete with each other for the business of accommodating the 88 million head of livestock which come in each year. Thousands of livestock buyers and order buyers bid against each other and the sale is made to the highest bidder. With 26,000 meat packers and other commercial slaughterers active in livestock buying, it is easy to see that the American livestock marketing system is the most competitive in the world.

These "livestock hotels" are a *separate* branch of the livestock-meat industry. They are privately owned. Swift & Company does not own a single share of any stockyards company.

OUR CITY COUSIN

City Cousin on the farm thought that there was little harm In eating apples by the *dozen* . . . Now he is our *sickly* cousin!

PREPARATION OF CORN FOR CATTLE FEEDING

by P. S. Shearer
Iowa State College

P. S. Shearer

How should Corn Belt cattle feeders prepare corn to get best results from their feeding? As ear corn, shelled corn, corn-and-cob meal, or ground shelled corn? The following may be helpful in deciding:

1. Are hogs following the cattle? If not, the evidence seems clear that grinding either the whole ear or shelled corn will pay. Feeding ear corn is especially wasteful if hogs are not following the cattle or if lots are muddy and the hogs have little chance to salvage corn thrown out of the bunks or passed through the steers.

2. Is the corn hard or soft? Corn varieties differ greatly in hardness of kernel. Grinding hard corn is recommended, whereas grinding might not be needed with softer corn.

3. What will the preparation *cost?* Costs of shelling and grinding differ from farm to farm due to labor, power and other charges. If the cost exceeds the gains derived, preparation doesn't pay.

4. Will an experienced, careful feeder do the feeding? Corn-and-cob meal is rated as a safer preparation in the hands of inexperienced feeders than either shelled or ground shelled corn.

Corn is a good cattle feed any way it may be prepared and one will not go far wrong with any of the standard preparations. Even our damaged, moldy corn surprised many with its feeding value this past winter.

Soda Bill Sez:

. . . to be a success at farming, you have to dig in.

. . . if you want to realize that castle in the air, you had better get down to earth first.

Martha Logan's Recipe for

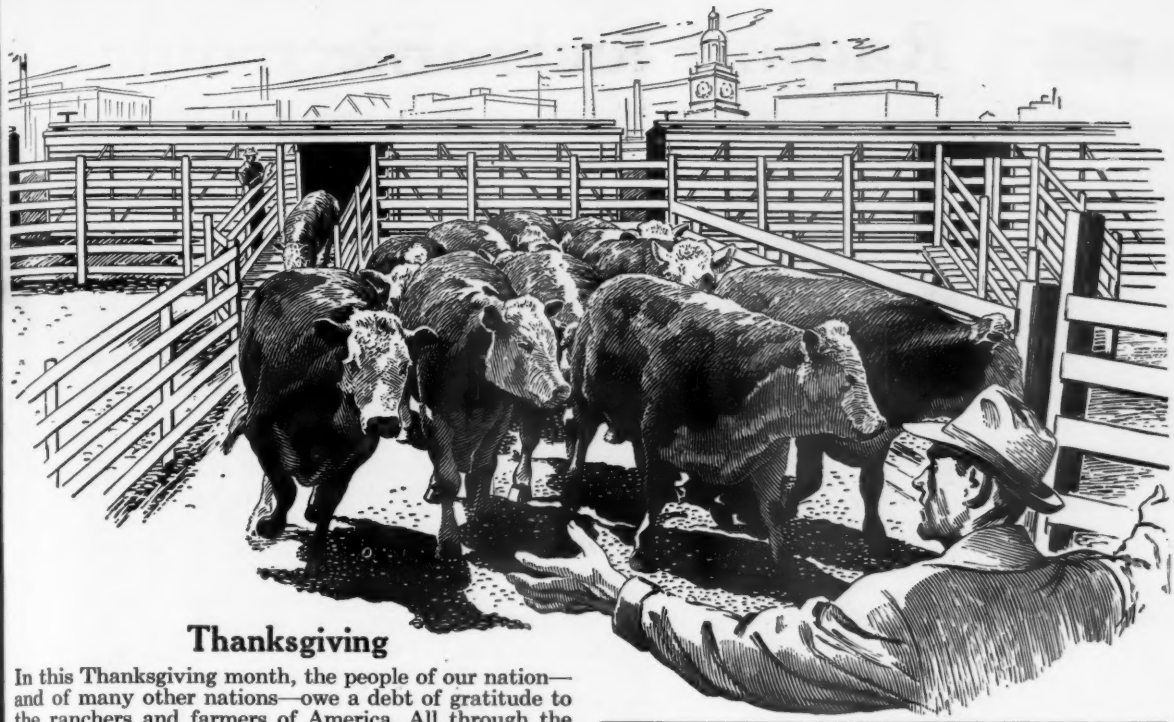
APPLE TORTE

Yield: 6 servings

1 tablespoon melted butter
1 egg
4 tart cooking apples
1 cup sugar
½ teaspoon vanilla
½ cup sifted flour
2 teaspoons baking powder
½ cup nutmeats
½ cup chopped raisins or dates

Pare and chop apples. Sift dry ingredients together. Combine all ingredients. Spread in a 9-inch square buttered cake pan. Bake in a moderate oven (350° F.) about 30 minutes, or until apples are soft. Serve hot or cold with foamy or hard sauce.

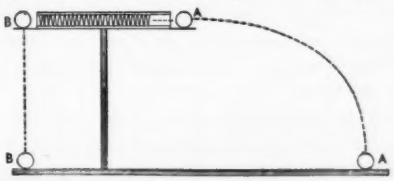
When writing advertisers please mention *American Vocational Journal.*



Thanksgiving

In this Thanksgiving month, the people of our nation—and of many other nations—owe a debt of gratitude to the ranchers and farmers of America. All through the war, in spite of its tremendous requirements, our people ate well. And in spite of sharing with the earth's hungry, our people are still eating well. Today, to be sure, not all the meat they would like to have . . . but plenty of nutritious food to keep them well and strong. That is because for long years millions of farm and ranch men, women and children have kept the food supply up, working harder than ever before, overcoming shortages of help and machinery and many other obstacles. Yes, Americans may well offer thanks this month to all those who produce our food.

Things are NOT always as they seem



The mechanical device pictured above shoots the ball marked A and at the same instant drops the ball marked B straight down. It certainly *looks* as if B will hit the ground first, since ball A has so much farther to go. But the *fact* is that they will both strike the ground at precisely the same instant.

In our business, too, things are not always as they seem. On September 1, 1946, the U.S. Dept. of Agriculture reported that in the entire country there were 356 million pounds of meat stocks in cold storage. That is a lot of pounds. But actually it is the *lowest on record* for that date . . . and compares with 626 million a year ago and a 631-million average for 1941-1945. Here in America we eat about 50 million pounds of meat a day, so the September 1 supply of meat in cold storage was barely enough to feed us for seven days.

Swift & Company UNION STOCK YARDS CHICAGO 9, ILLINOIS

SPREAD

When visiting with livestock producers on farms or ranches, or at meetings, the subject of "spread" often comes up for discussion. Then I give them an explanation of *the difference between the price they get for livestock and price we meat packers receive for the meat we sell.*

To me it is a source of continual surprise that the spread is not *greater* than it is. During my years of experience in the livestock-meat industry here is what I have learned about spread. We at Swift & Company have been paying farmers and ranchers approximately 76¢, on the average, out of every dollar we receive from those to whom we sell, for all products we process and handle, including hides, glands, and all by-products. That leaves us 24¢ to cover the cost of processing and marketing.

Out of that 24¢ comes the cost of buying livestock and other agricultural products. The cost of preparation and refrigeration. The cost of loading them into cars and trucks. The cost of transporting them to our branch houses or to retailers. The cost of branch house operation and of selling and delivering the products to the retail dealers. In addition, we have taxes to pay; plus insurance and all the other necessary costs of doing business. When all these expenses have been paid, we make a profit, which over a period of years has averaged a fraction of a cent a pound on the 6½ billion pounds of products we handle annually.

There is no other business in the country that does so much for so little.

F. M. Simpson.

Agricultural Research Department

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Right Eating Adds Life to Your Years—and Years to Your Life

When writing advertisers please mention *American Vocational Journal.*

Radio-Electronic Progress

by ***STANLEY F. JANIK***
Head of Radio Department
Boston Trade High School

Teacher Must Keep Abreast of Breath-Taking Developments

Home television sets appear nearer realization for many

RADIO-ELECTRONICS has been expanding at a rapid pace with the promise of spectacular improvements and developments in branches such as communication services, television, frequency and pulse modulation, facsimile, and industrial electronics. The next few years will see radio communication services such as two-way service for trains, automobiles, trucks, busses, taxicabs, and emergency vehicles. Wartime development and application of relay, portable, walkie-talkie, handie-talkie equipment will be quickly adapted to the postwar period.

Aircraft requirements for communication and navigational aids equipment will be staggering. Radar beacons for blind flying and landings is contemplated in the near future for commercial flying. Railroads are expected to use two-way radio communication systems as well as electronic signalling and safety devices for improvement in efficiency and safety of railway operations. "Ship to shore" microwave relay circuits will be required as well as other types of point-to-point marine service.

Loran (long range navigation), another wartime development for determining ship position at any time, and in all kinds of weather, now is used extensively by commercial vessels.

Portable walkie-talkie, handie-talkie units will be used by construction crews in areas inaccessible to mobile units. Remote control radio circuits will control distant apparatus and transmit metering and alarm signals when other means of control are difficult or impossible. Facsimile will transmit drawings, circuit diagrams, charts, sketches, and messages over radio waves. The copy will appear in page form preventing misunderstanding; facsimile receivers may be left unattended for reasonably long periods of time and messages will be available on return of the operator.

Radio multiplex circuits will be employed for the simultaneous transmission of many independent signals over one radio channel without any cross-talk, thus employing the minimum of frequency spectrum.

Television broadcasting is certain to make remarkable strides as a result of intensive radar and microwave developments which are part of the war's speeded-up engineering and research processes. A plan for broadcasting from airplanes spotted at about 14 locations from New York to Hollywood is contemplated. This is a departure from previous methods and just how such systems will work out remains to be seen. It is claimed by one sponsor of "Stratovision System" that a plane flying at 30,000 feet could easily serve an area of 100,000 square miles. Each plane will have sufficient equipment to handle five FM and four television programs and will be able to broadcast to all receivers in its area.

Another landmark in communication transmission is in progress of building by the American Telephone and Telegraph Company. It is a radio relay system which will help determine in practical operation the relative efficiency and economy of microwave radio transmission for sound and television programs and for long distance telephony as compared with wire and coaxial cable methods of transmission. Many engineers feel that this system may open a new world in sound and visual communication.

Industrial applications of electronically controlled equipment, devices, and systems developed during the last few years such as electronic, microscope, precipitron, stroboscope, stagger the imagination and are too numerous to mention here.

This new group of radio-electronic products, with its new applications, techniques, circuits and innovations that follow as a natural result of the march of progress, will place a burden on the time, ability, and patience of teachers who are required constantly to keep abreast of new facts and practices.

This problem is real. Any teacher who has carried on continued study in the electronic field, with consideration of what it means to him as a teacher of radio-electronics, must have done some thinking! To keep abreast of these developments and to incorporate into the curriculum the necessary instruction to prepare students for the understanding and servicing of such new equipment is essential. It should not supplant the basic fundamentals of radio and electronics, but simply add to the present equipment and instruction. It presents a challenge which no teacher can afford to ignore. New techniques must be explored, new methods developed, new ideas born for application in shops and classrooms. All teachers really want to be in step with the industrial progress and trend, against the temptation of letting things take their own course.

Michigan Educators Learn First Hand Where Schools Can Improve Services

BUSINESS *When* INDUSTRY *DO Cooperate* EDUCATION

by **CARL M. HORN**

Chief, Occupational Information and Guidance, Michigan

CONTINUING a program launched last year when a group of Michigan educators spent a month studying G.I. methods of education, a similar project was conducted this past summer. Twenty-six superintendents and principals from both large and small school systems, a representative of the teacher training institutions, and of the Department of Public Instruction, spent a month studying "Implications from Business and Industry for Public Education." In this report, "business and industry" includes "labor."

Seven areas of study were selected: employment practices; education and training; public relations; human relations; cooperation between business, industry, and education; occupational adjustment; and evaluation.

In four weeks the group visited the following places: Detroit—General Motors, Chrysler Corp., Ford Motor Co., UAW-CIO, J. L. Hudson Co., Atlantic & Pacific Tea Co. Chicago—Sears, Roebuck & Co., Western Electric, Swift & Co., International Harvester Co. Pittsburgh—U. S. Steel Co. and Westinghouse. Washington, D. C.—AFofL, CIO, U. S. Office of Education, U. S. Chamber of Commerce. Philadelphia—Stetson Hat Co., Curtis Publishing Co., Atlantic Refining Co., RCA. New York—National City Bank, New York Times, National Association of Manufacturers, McGraw-Hill Book Co., Metropolitan Life Insurance Co., National Broadcasting Co., American Telephone & Telegraph Co., and the Waldorf-Astoria Hotel.

The tour included establishments which were not only among the largest in the world but also those which present a representative picture of the best practices in business and industry. What was observed is typical only of what may be found in some of the best establishments in the country.

Increasingly, business and industry are recognizing the importance of careful selection and assignment. The pre-employment interview is brief, but the trained interviewer can learn a great deal about an applicant in a minute or two, the usual time. The application blanks invariably ask for information regarding high school graduation, extra-curricular activities, hobbies, and work experience. Seldom is the employer concerned about the academic record except in certain specialized jobs. The most important characteristic desired is "ability to get along with others." They were anxious to secure some kind of personality rating from the school, but seldom were able to do so. In most cases the employers receive no information from the school regarding a prospective employee,—which indicates one of the many ways in which business, industry, and education can cooperate. Toward that end, Michigan has just adopted a new record form called the "Michigan Qualifications Record," which will be given to high school graduates and drop-outs. The form was developed cooperatively by business, industrial, and educational leaders.

Educators at Camden, N. J. plant of Radio Corporation of America

Business and industry have some of the largest educational programs in the world. One company is spending $3,000,000 a year on their educational and training program and the amount may be doubled or trebled. The fact that such programs are considered necessary is no reflection on what public education has done, although there has been little coordination between the two programs.

Some of the implications in this field for public education are:

More and better use of audio-visual aids should be made by the schools.

Expansion of the cooperative, apprenticeship, and other types of work-experience program is necessary. The author would recommend that one year of work-experience be required for graduation from every high school in the country, such work-experience to be supervised by the public schools and on a part-time basis.

Interpretation of the world of work to youth, by all teachers, through classes, units and use of tours and visual aids, is necessary. Youth are entitled to facts regarding job opportunities.

Curricula should be built on job analysis.

New and revised curricula should be deter-

mined upon with the assistance of experts from business and industry.

Labor and management problems should be presented to and discussed by all senior high pupils, preferably in social studies classes. The materials should be agreed upon by a labor, management, education committee.

The schools must recognize that their responsibility to the individual does not cease at graduation or drop-out time.

Business and industry want basic skills taught. These include reading, writing, and arithmetic plus getting along with others, reliability, punctuality, and basic knowledge and experience in machine operation. There is an implication not for less vocational education, but for a change to a type to be determined on local, state, and national bases, in terms of the needs of pupils and the employment situations.

General and vocational education must become a joint educational program rather than compartmentalized and opposing units.

Business and industry indicate that there is as much need for a change in general education as there is in vocational education.

BUSINESS and industry recognize that human relations is a field about which they know all too little. Every establishment visited showed evidences of tackling this problem. One company has a full-time counselor for every 375 workers. Another has completely changed its philosophy of organization and operation. It now is based upon a program of human relations for which they frankly admit they do not have the answers.

The implications for public education appear clear.

Human relations are certainly as important and deserving of as much time, money and personnel in education as in business and industry.

Education needs much more research in this field.

Education, business, and industry should set up a National Human Relations Research Center.

Business and industry every year spend hundreds of millions of dollars in technological research. They can afford no longer to ignore the needed research in human relations. It is a job that needs both individual action and joint cooperation.

Every school should assign to the best-qualified faculty member the responsibility of heading up the guidance programs. As much time as possible should be given to this person for developing the program.

Tests and records in most schools are inadequately used. Special study and attention should be given to this field. The type of record being used in Michigan for school leavers should be in use in all states.

Adequate counseling services pay in dollars and cents in business and industry. Schools need to expand their counseling services and there is a crying need for better training of counselors in every state.

THE schools have long ignored the importance of telling the public just what they are trying to do and why. The failure to secure adequate funds for education can largely be traced directly to inadequate public relations programs. A few implications have been drawn from the trip.

A portion of the school budget should be set aside for public relations. In the large city, a full-time director should be employed. In small cities and towns, the solution lies in the pooling of funds to employ competent services. Ten or fifteen schools could hire a full-time area director of public relations.

Business and industry have suggested that a public relations advisory committee for education be set up which could consist of representatives of public relations staffs from various business and industrial establishments.

A carefully planned program utilizing school pupils, faculty, and parents will do much to "sell" taxpayers, and keep them sold, on the necessity of better financing of education.

The U. S. Chamber of Commerce has developed an excellent program to be used by local Chambers of Commerce and schools in presenting the necessity for more funds for education. Write to the U. S. Chamber about it.

So much already has been said about cooperation that little needs to be added. Business, industry and education have not scratched the surface in cooperative efforts. The major implications are clear.

There should be a permanent committee appointed in every community to foster cooperation between business, industry, and education.

ON THE state and national levels there should be similar committees and a continuous use of the rich resources of personnel from business and industry by education in curriculum planning, research, and other aspects of educational development.

Observations on the trip convinced the Michigan group that an inadequate job has been done in preparing youth for adjustment to the world of work. Remarks such as these from leaders in business and industry point the way:

"Eighty-five per cent of youth coming to us want to sell or go into personnel work. They don't want to dirty their hands."

"Youth have little understanding of the jobs in business. Few realize that in a department store only a little more than one-third of the employees sell."

"Attitudes of youth toward management and labor have no basis in facts."

Organized efforts on the part of the schools to correct these and many other weaknesses are needed. A planned series of tours to local and regional business and industrial establishments, starting in the grades and carrying on throughout the high school experiences of the pupil, should be provided.

There should be concentration of occupational information at the ninth grade level and again in the twelfth grade. This may well be done through units in English or social studies.

Business and industry are weak in evaluation as is education. The major evaluation has been in terms of sales and profits. Much research is needed to devise techniques and methods of appraisal.

One company visited, checks up on employee adjustment one month, three months, six months, and a year after employment. Follow up of high school drop-outs and graduates remains one of the major areas of service which schools have neglected.

"Superior Farmer"

by **RUBY CORDER**
Agricultural Education Service
U. S. Office of Education

IT USUALLY takes ten years or more for a young farmer to acquire title to a farm, but Erskin Orr of Danville, Alabama, accomplished this in only two years.

Erskin won the NFA Superior Farmer Degree "key" at the 1945 National Convention of the New Farmers of America. He assumed responsibilities of farm ownership before he was 23 years old, purchasing with his savings a half interest in his father's 60-acre farm. In partnership they own adequate farm equipment which is kept in good repair. They own their workstock separately. Erskin rents alone 38 acres of land on a third-and-fourth basis and has an arrangement with his father for use of any of their partnership equipment needed for the operation of this land.

When Erskin first decided to make the old home place a better farm through modern scientific farming methods, vocational agriculture training in the Morgan County Training School was the answer. The vocational agriculture teacher, G. W. Taylor, supervised his farming program, consisting of one acre of corn and one of hay, from which he earned a labor income of $25.72. He also raised a young mare and a heifer given him by his father. The calf became the start of his present dairy herd. He traded the mare for a mule, bought another mule, and has refused $500 for them.

The second year in school he planted five acres of cotton, two acres of corn and two of peanuts. His total income was $478.15. The third year, swine was added to his projects and his crops were increased. During his first year out of school he devoted his full time to farming, and his total income from 7 acres of cotton, 8 acres of corn, 5 of hay, two cows and 3 hogs, amounted to $820.31. He traded animals and made $70, and repaired farm machinery earning $48 during the four-year school period. Other profitable farming activities were spraying orchards, cutting hay, maintaining a purebred boar, drilling wells, building a workshop and a brooder, netting a total of $371. This, added to the income from his supervised farming program, made his total income for the four years $2,077.59. He constructed fences and steps, dug a storage pit, beautified the home by work on lawns, walks, flower beds and shrubbery, pruned, fertilized, and cared for the orchard, built a lamp brooder, cultivated a year-round

(Continued on page 31)

Sit Down and Read This

and send us your answers

BUILDING a magazine is like constructing a three-legged stool. A good, solid stool has to have three legs. A magazine likewise needs the following three sturdy legs: Editorial, Circulation, Advertising.

The editorial content of each issue of the *American Vocational Journal* must cover all services of education represented in the American Vocational Association. Every worker in vocational education and industrial arts should know what is going on in the entire field served by the Association.

The *AVJournal* is your magazine. We want to do all we can to make it an interesting publication, useful to you. Will you help us by filling out the questionnaire below and mailing it (or a separate sheet with your answers) to the Managing Editor, *American Vocational Journal*, 220 E. 42nd St., New York 17, N. Y.

1. Do you look forward to reading your magazine? ..... Yes..... No.....
2. Do you read only material pertaining to your own field of work? ..... Yes..... No.....
3. What other professional magazines do you read?.....
4. What kinds of articles do you want in the *AVJournal*?.....
5. Do you read the advertisements?. Yes..... No.....
6. Are the advertisements helpful to you? ..... Yes..... No.....
7. If not, what is wrong with them from your point of view?.....
8. When writing to advertisers, do you use the coupon provided?... Yes..... No.....
9. Do you send a letter or card instead of the coupon?..... Yes..... No.....
10. Do you mention the *AVJournal* when writing to advertisers?.... Yes..... No.....
11. When sending for materials, information, etc., announced in "New Teaching Aids," do you mention the *AVJournal*?..... Yes..... No.....
12. Name the subject you teach, indicating whether vocational or industrial arts.....
13. What suggestions, not indicated above, have you for improving the editorial content or advertising of your magazine? (Use a separate sheet.) .....

HR 6932, passed by the last Congress, authorized $61,000,000 for agricultural research in the next five years. Under the bill the money may be used for research relating to "improved methods of production," "new and extended uses and markets for agricultural commodities," "new and useful agricultural crops, plants, and animals," "more profitable uses of the resources of agriculture," "conservation and development of land, forest and water resources," "design, development and more efficient use of farm homes, buildings, machinery," and other efforts which would contribute to effective agriculture.

Facilities on Army reservations may be loaned to educational institutions for non-housing aid to student veterans. The War Department will issue revocable permits to the Federal Works Agency for remodeling buildings and for use of land not needed for military purposes. It is expected temporary branches of educational institutions will be located on these reservations.

Status of a Department for the newly reorganized Federal Security Agency, headed by a Secretary with Cabinet membership, is one of the important issues which may come before the 1947 Congress. A bill (S. 2503) was introduced by Senators Taft, Ohio, and Fulbright, Arkansas, during the last session and may be the basis of next year's legislation. The purpose was "to provide for more effective administration of functions already being performed by agencies of the government in the fields of health, education, security, and related services contributing to individual, family, and community well-being." The bill provides that the Department shall consist of three main divisions and as many others as are necessary or desirable. Each main division would be under the supervision of an Assistant Secretary to be appointed by the President, with the advice and consent of the Senate. The three divisions are: Health, Education, and Security. The Education division would "have charge of the educational functions and activities of the Department." The present U. S. Office of Education, Office of Vocational Rehabilitation, and Federal Security Agency functions relating to Howard University and Columbia Institution for the Deaf, would be transferred to this division.

The Reorganized Federal Security Agency now is operating with four main branches and six staff offices. One branch is new: the Office of Special Services which includes the Bureau of Employes' Compensation, Employes' Compensation Appeals Board, Food and Drug Administration, Office of Vocational Rehabilitation, War Property Distribution and Community War Services. Other branches are Social Security Administration, Public Health, and Office of Education which includes Columbia Institution for the Deaf, American Printing House for the Blind, and Howard University. Staff offices are Executive Assistant, General Counsel, Research and Information, Federal-State Relations, and Inter-Agency and International Relations.

The U. S. Office of Education Digest of Annual Reports of State Boards for Vocational Education for 1945 shows that states and territories reported expenditures of $65,641,640.50 from Federal, state, and local funds for vocational education. Total enrollments were 2,002,895.—G. H. F.

Restaurant Owners Want Training

(Continued from page 17)

director was to interest many state and local restaurant associations in waitress training classes. Through the cooperation of B. Frank Kyker, John B. Pope, and Henry Richert of the U.S. Office of Education, the educational committee, and the educational director of the National Restaurant Association, *Training Restaurant Sales Personnel* was written by Ruth M. Lushy. This manual is about to go into its third edition. Every restaurant association in the country now should be getting these classes started again, if they were discontinued during the war.

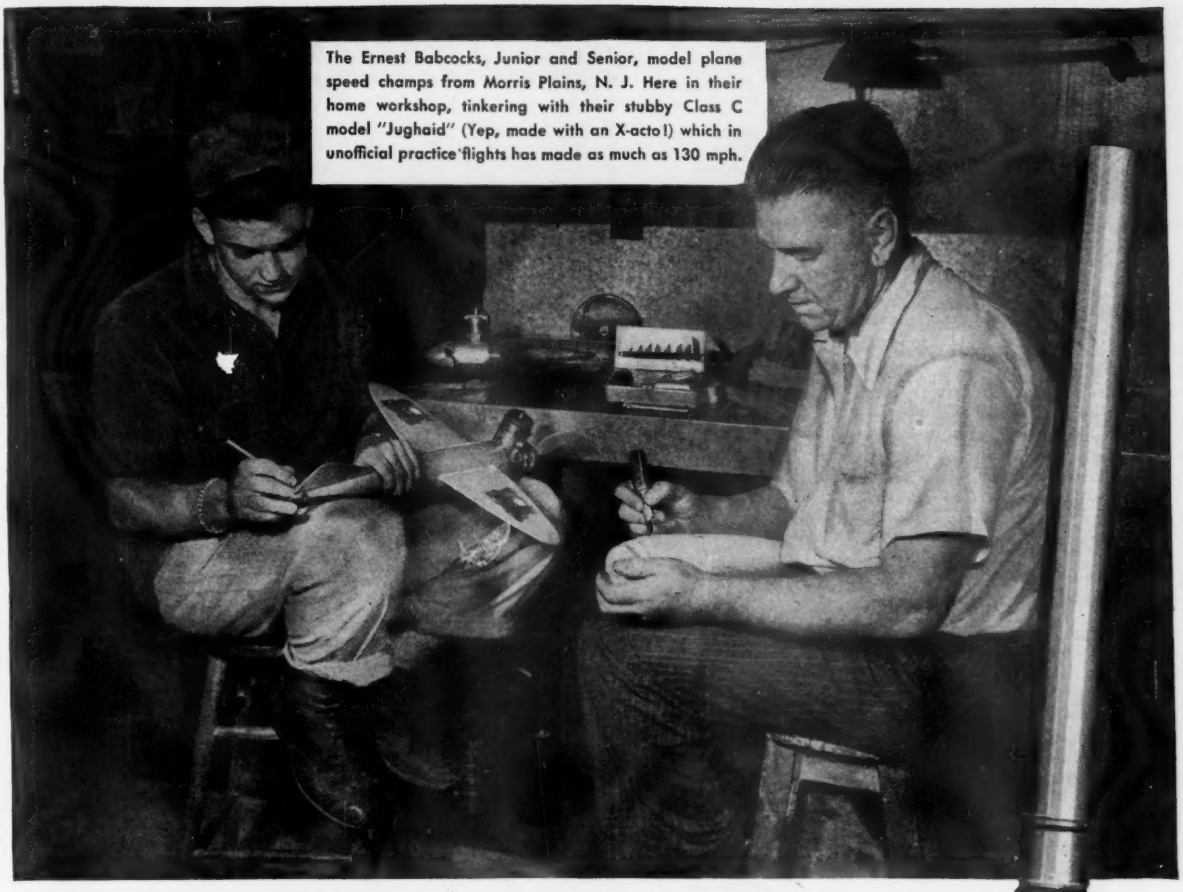
"Human Relations Training for Supervisors," has been effective in helping supervisors recognize their shortcomings and improve their fitness for the job, by teaching them how to handle effectively employee relations. More and more restaurants are recognizing that the heart of a good organization depends upon good human relations. The first research project at the University of Chicago was in this field and the findings of the survey soon are to be published.

Many existing methods in restaurants could be improved if sufficient thought were given them. Restaurant operators are beginning to see that the surest way to maintain a profitable balance is to reduce costs by improving methods. They are anxious for help in setting up a program of work simplification. This is where the supervisor of distributive education can be of great assistance.

"How to Lead an Employee Meeting or Conference" is a program that has been enthusiastically received. Almost all restaurants hold such meetings and operators are eager to know the most effective way to get results.

Too many supervisors of distributive education have been only lukewarm in explaining their program to this industry. There are "Future Retailers" clubs, Future Farmers, and Future Homemakers. Why not "Future Restaurant Sales Personnel" or include this group in the Distributors' Clubs?

The National Restaurant Association is made up of leaders who are anxious to see their industry attain rightful recognition as measured by good food, good service, sanitation, courtesy, and through the happiness and efficiency of its own employees. Distributive educators by helping in establishing more effective training programs, can hasten this accomplishment.



The Ernest Babcocks, Junior and Senior, model plane speed champs from Morris Plains, N. J. Here in their home workshop, tinkering with their stubby Class C model "Jughaid" (Yep, made with an X-acto!) which in unofficial practice flights has made as much as 130 mph.

MEET THE CHAMPS...THE BABCOCK TEAM

...and read what *they* say about X-acto!

When thirteen-year-old Ernest Babcock asked his Dad for a model plane kit four Christmases ago, he got an X-acto Knife Chest, too. But, neither father nor son dreamed, then, that they'd become the nationally famous model plane team they are today.

Dad designs the planes, Junior flies them, but *both* work at building them with their trusty X-actos. Together, the amazing Babcocks have broken more records and run away with more top prizes than most ordinary mortals ever heard of.

Anyone who ever put a knife to wood knows a brilliant record like this takes more than expert skill in designing and handling the planes. It takes the patience of a saint in building accurate models. And it takes good, dependable tools.

So when the Babcocks say, "We've used X-acto Knives since we first began building models, and find them *the handiest tools to have in a model shop*"... there's a tip for *you*, brother!

13 Blade Shapes Quickly Interchangeable!

X-acto is tops, as well, for whittlers, paper sculptors, or any other hobbycrafter, be he amateur or expert. With 13 scalpel-sharp blades and 3 safety-grip handles (*all-metal, no more substitute plastics!*) you'll do a slicker job, and *quicker*, when you use super-sharp X-acto.

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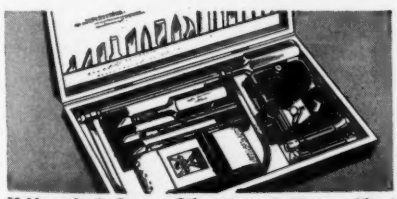
X-acto No. 2 Solid Duraluminum Knife . . . **50c**
With 5 assorted blades, **$1.** Other X-acto Knives, Tools, Chests, 50c to **$12.50.**



Hobbycrafter's Dream Gift. No. 85 X-acto Tool Chest—3 all-metal knives; full assortment of blades; saw; sander; stripper; planer; drills and holders; steel ruler; complete in wooden chests, $12.50.

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PRACTICAL VOCATIONAL BOOKS

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ELEMENTS OF AUTOMOTIVE MECHANICS

Heitner, Shidle, and Bissell

The 1946 revision of this popular text ensures complete coverage of current practices. This is a simple, basic book which leads the student from theory and construction directly to actual use and maintenance. It is largely self-teaching, and calls for no previous technical training. Approximately 600 questions and projects appear at chapter ends. Detailed figures and diagrams aid understanding. Special sections of repair helps.

INDUSTRIAL ELECTRICITY

Nadon and Gelmine

This book includes both the fundamentals of electricity, and their application to present-day equipment. It is thorough and complete, yet easily understood by vocational students. Special chapters cover mathematics required beyond arithmetic. Controllers are emphasized. Throughout the text examples are worked out for immediate help. There is an unusual number of exercises at chapter ends, and over 700 illustrations.

THE MATHEMATICS OF THE SHOPS

McMackin and Shaver

Here is a practical book that covers mathematics from common fractions through trigonometry, and ties up each process directly with shop problems and practices. Examples worked out in detail explain every step. Applications are direct and functional. Special sections are devoted to the mathematics of the building trades, electrical shop, and machine shop. Hundreds of exercises and problems, and over 600 illustrations.

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The Vocational Outlook

★ The Iowa plan for institutional on-the-farm training for veterans was available to schools of the state this fall. It called for county advisory committees, 200 hours per year in organized classes off-the-farm and 100 hours on-farm instruction. Training is furnished through the local public schools and usually stems from the vocational agriculture department.

★ In addition to the annual state conference for homemaking teachers at Iowa State College last summer, regional meetings were held during September and October to give teachers help with adult work, in which both class and non-class activities were emphasized.

★ New silicone resins are being developed by the General Electric Company's chemical department which will preserve color and gloss permanently on autos, refrigerators, stoves, hospital equipment, etc.

★ A graduate program in methods of teaching the blind is being offered at Hunter College in cooperation with the New York Institute for the Education of the Blind.

★ Two and one-quarter million pounds of Pennsylvania Salt Manufacturing Company's Kryocide was used in the Alabama-Georgia-Florida peanut fields this year when velvet bean caterpillars threatened to destroy the 1,000,000 acre crop.

★ Among new uses of oil on the farm are flamethrowers that weed cotton fields by shooting out compounds derived from oil, and a petroleum derivative that kills weeds when sprayed on carrot fields, according to a General Electric Farm Forum address.

★ A continuation of the population movement from South to North, and from North to West is predicted by the U. S. Department of Commerce. From Pearl Harbor Day to March, 1945, 15 million civilians and 12 million military personnel, changed residence.

★ A new method has been developed for breaking, twisting, and bending hard metals with compressed air. Performed with a pneumatic fatigue-testing machine, it is expected to bring radical changes.

★ Construction of five new buildings for the State Agricultural and Technical Institute at Farmingdale, New York, has been approved by the New York State Postwar Public Works Planning Commission. The total cost is estimated at $3,718,650.

★ A new series of mill motors that in some cases produce twice the horsepower of older type motors of corresponding size is under construction by General Electric.

★ The October issue of *The American Magazine* carried an account of how students of Sewanhaka High School, Floral Park, Long Island, manage, maintain, and pay for the first post-war high school FM radio station installed in the U. S.

★ Six television stations now are in regular operation and 25 more under construction; applications for an additional 50 have been filed and another 50 are in process of preparation, according to the U. S. Department of Commerce.

★ The first leadership training conference for Negro State and Chapter advisers of the NHA in Mississippi was held at Tougaloo College last summer.

★ Seventy special teachers have been engaged in Mississippi for farm training of veterans. Total enrollment is approximately 1,500.

★ One of the largest schools for the deaf in the country is being established by the Lutheran Church in New York City.

★ In a survey of the services now performed by mechanical refrigeration and air conditioning, the Refrigeration Equipment Manufacturers Association lists more than 200 uses. Equipment covering the entire range will be shown at the Fourth All-Industry Refrigeration and Air Conditioning Exposition in Cleveland October 29 to Nov. 1.

★ Utica, New York, Institute of Applied Arts and Sciences, one of the five state technical institutes, is offering a two-year post-high school course in retail management this year. The curriculum includes fundamental mechanics and techniques, and specialized information such as public speaking, public and employee-employer relations, communication skills, advertising, economics, financing, government and citizenship, and community responsibilities. Paul B. Richardson is director of the school.

★ Tennessee has two new programs of diversified occupations training. One is at Elizabethton and the other at Rutherford County Central High School, Murfreesboro. Two new general building trades programs have been established, at Sunbright and Wartburg. All are expected to establish T & I Clubs.

Reorganization

(Continued from page 21)

levels. In addition, these field representatives have the responsibility for assisting the state board personnel in establishing ways and means of facilitating the organization and development of programs of vocational education as they are planned to function in the best interests of the working people of their respective local communities. The field representatives will find it increasingly necessary to know something of the nature and conditions under which local programs of vocational education develop so that they may assist the states in determining and evaluating their needs for assistance in furthering such development from the specialized personnel of the Program Planning Operations Branch. Finally, they serve as a medium for securing such assistance in an orderly, planned manner.

Of particular importance to the State Boards will be the service of the regional field representatives in the field of budgetary and financial planning and operation through the development of improved procedures and techniques. They will assist the states in anticipating emerging developments in their programs in the years ahead and the consequent demands that will be made for their financial support.

The accompanying chart presents graphically the organization of the Vocational Division of the U. S. Office of Education as it is now functioning.

Superior Farmer

(Continued from page 27)

garden, piped running water to convenient points on the farmstead, planted permanent pastures and improved the soil with legumes.

Erskin bought a life insurance policy to protect his father in their partnership activities, so strengthening his credit rating also. He began a savings account early. He received the Farm Hand, Improved Farmer, and Modern Farmer Degrees in his state, and last year the National Superior Farmer Degree, the highest achievement award given by the NFA. He has taken part in all NFA cooperative activities to the fullest extent.

Enthusiasm for NFA competitive events was a powerful drive toward this achievement, which exemplifies the value of vocational agricultural education in a young Negro's farm and community activities.

Curriculum Revision Studied

A curriculum revision study for homemaking, organized more than a year ago, is being continued in Louisiana to complete a satisfactory instructional guide.

More than 300 homemaking teachers have participated and the state curriculum committee has been assisted by Miss Beulah Coon of the U. S. Office of Education.

Points listed for revision include (1) giving more help to teachers in developing techniques for guiding pupil-teacher-parent planning; (2) including a year's work in homemaking for boys and girls in the same class; (3) including a year's work in general homemaking for girls who have had no home economics; (4) devoting 12th year's work to vocational schools based on interests and needs of individuals.

The progress report shows activity in 60 parishes. The state and parish meetings were to study situations and ways of determining needs and interests of youths and adults at home and in school. This report on the first year's work is serving as a tentative instructional guide.

Five NEWSWORTHY RADIO ITEMS

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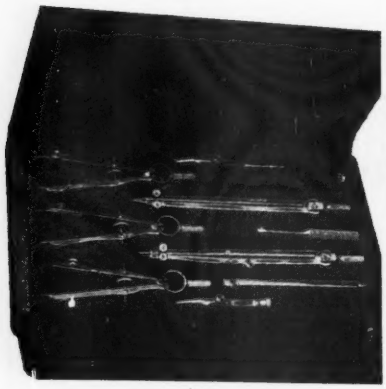

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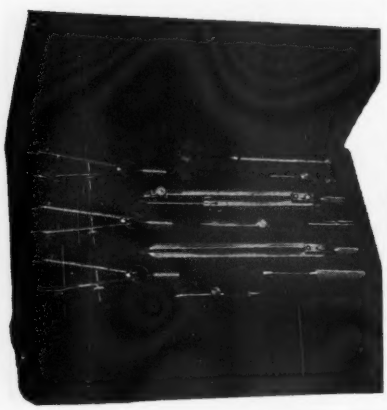

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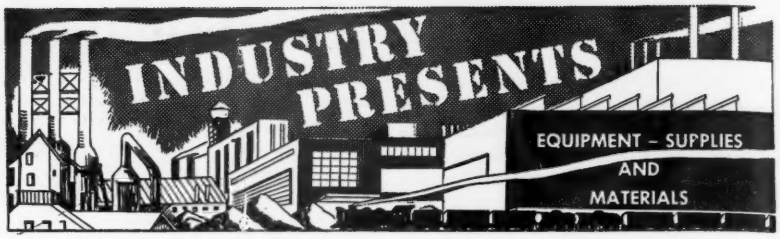


Electro-Voice, Inc., moves to a new, larger home in Buchanan, Mich., where a modern factory nearly an acre in size combines all facilities of its three South Bend plants. Electro-Voice manufactures a complete line of microphones including cardioid, dynamic, crystal, carbon, velocity, and differential types and microphone floor and desk stands. 1

A new 2" x 2" slide projection, called Amproslide, is presented by Ampro Corporation. Easier, faster operation is the result of a new automatic snap-action, self-centering slide changer. It can be operated with one hand. 2

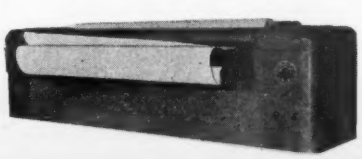
The new Radiant "DL" is an improved, streamlined, portable tripod model, with the Radiant "Hy-Fleet" Screen surface. It incorporates, among its 12 new and improved qualities, a patented "feather-touch friction clutch," an automatic leg opening device, a protective "shock absorber," a screen leveler, and a dual-action "auto-lock." 3

The new handlever turret for South Bend 9-inch lathes, is designed to give turret lathe efficiency on jobs which require a number of successive operations. The turret mounts on the inside ways of the bed in place of the tailstock. Six station turret head accommodates tools with ⅝" diameter shanks. 4

The Lawrence Cutting Speed Calculator, by insuring the use of proper spindle speed, will save many burned and broken tools and increase machine tool productivity. Whether drilling, reaming, milling, turning, or grinding, this calculator gives the answer. 5

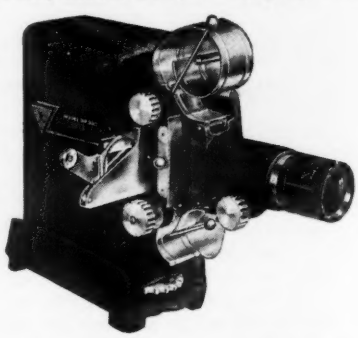
The Toy Division of Industrial Graphics Inc., announces an Electric Motor Kit and Book No. 11. The Kit comprises a set of 33 precision parts designed for easy assembly into a speedy but harmless electric motor. Everything is included: batteries, wire, steel frames, and pulley to harness the motor's power. 6

Table-type Continuous Printers are announced by Peck & Harvey. They expose direct process black and white prints, blueprints, and ammonia-type prints, from tracings, charts, drawings, letters, etc. They produce clear, sharp, true-to-scale prints up to 44 inches wide in a continuous operation from cut sheets or roll stock, in any lengths, at speeds from 6 to 42 in. per minute. 7



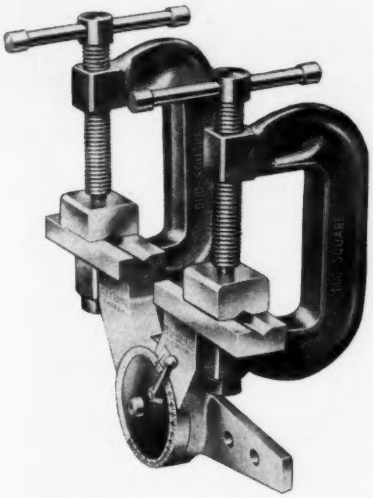
A new sanitary "drinking fountain pump" just announced by Baker Manufacturing Co., provides safer drinking for areas outside of public water systems. Built on a modified hand pump it operates from any well or similar source of water supply. 8

The Three Dimension Co. announces its new 2"x2" slide and slidefilm projector, Model DP300. Changing from slide to slidefilm takes only two seconds, among other improvements for more efficient operation. 9



A new aluminum oxide product, 32 Alundum abrasive is announced by Norton Co. It is made by an electric furnace process which produces grains of an improved shape and structure each grain being a complete, single crystal. Grinding wheels made of 32 Alundum give superior performance. 10

Duo-Square Work Holders hold two parts, whether round or square bars, flats or angles, securely enough to weld, braze, solder, cement, glue, etc., without distortion and the inevitable tapping and squaring. They are cast aluminum alloy brackets supporting two clamping faces that are either positioned at fixed angles or adjustable. **11**



The Casco electric-craft tool kit is engineered for all-purpose hobby and home mechanical needs. The electric hand power tool has a finger grip, is dynamically balanced, and gives speedy, smooth vibrationless operation on shock absorbing ball thrust end bearings. **12**

Additional information about products mentioned in "Industry Presents" columns may be obtained by using the coupon on page 41, where please circle the number that corresponds to the one at the end of announcement in these columns.

Vocational High School Gets Ship

New York Board of Education will have its own "Navy" this year, with Metropolitan Vocational High School in command, and manning the ship.

A 10,000-ton Liberty freighter that was converted into a troop carrier during the war, was offered by the War Shipping Administration, and accepted by the Board of Estimate. It will be used to give students of Metropolitan Vocational High School practical experience in deck and engine room techniques.

Sixteen hundred students now are taking the maritime course, in addition to their regular high school curriculum.

The vessel will be used in connection with this training program. It is planned to moor the 450-foot Liberty ship on the north side of Pier 4 in the East River about a mile from the school.

Dr. David Salten is acting principal of Metropolitan High School during the absence of Dr. Franklin J. Keller who is in Germany with the Office of Military Government, heading the vocational technical division. Dr. Keller left for Germany Oct. 1.

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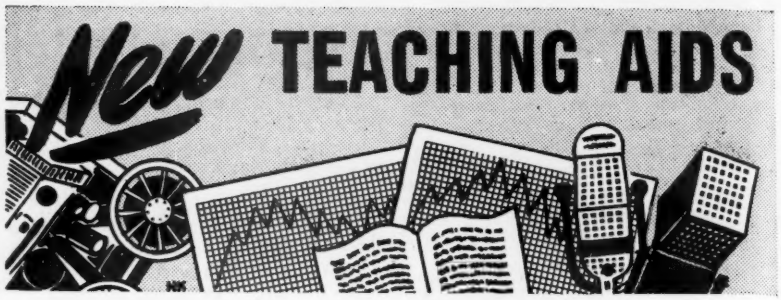

FILMS

Distributing America's Goods. 16mm. 1 reel sound, for purchase from Encyclopedia Britannica Films, 20 N. Wacker Drive, Chicago 6.
Shows why 59 cents out of every consumer dollar goes for distribution costs.

Let's Give a Tea, Arranging the Tea Table, Arranging the Buffet Supper. 16 mm. Released by Simmel-Meservey, Beverly Hills, Cal.
Three films dealing with afternoon and evening entertaining, designed to complement homemaking courses.

An Adventure in Learning. 16 mm. sound. Castle Distributors Corp., 30 Rockefeller Plaza, New York 20, N. Y.
Story of wheat from farm to table with interesting story running through film.

The Thread of Fashion. 16 mm. sound. Castle Distributors Corp., 30 Rockefeller Plaza, New York 20, N. Y.
Covers basic methods in dressmaking with short sequence on manufacture of thread.

From Bristles to Brushes. 16 mm. sound. Castle Distributors Corp., 30 Rockefeller Plaza, New York 20, N. Y.
Shows processes of making common articles such as brushes, brooms, etc.

The Balanced Way. 16 mm. sound. Castle Distributors Corp., 30 Rockefeller Plaza, New York 20, N. Y.
Stresses milk and dairy products in discussion of balanced diet and healthful eating habits.

Citrus in Nutrition. 16 mm. sound. Castle Distributors Corp., 30 Rockefeller Plaza, New York 20, N. Y.
Shows growing, cultivation, and picking of oranges and their uses.

To Live in Darkness. 16 mm. sound. Castle Films, 30 Rockefeller Plaza, New York 20, N. Y. $11.81.
Winner of National Safety Council Award in 1945; tells stories of men who lost their eyesight through carelessness.

Advanced Typing: Shortcuts. 16 mm. sound. Castle Films, 30 Rockefeller Plaza, New York 20, N. Y. $32.63. *Advanced Typing: Duplicating and Manuscript,* $25.53. *Maintenance of Office Machines,* $35.01; *Take a Letter Please,* $21.10.

Home on the Range. 16 mm. sound. Castle Films, 30 Rockefeller Plaza, New York 20, N. Y. $8.23.
Film shows workaday range country of west: land, grass and water, sheep and cattle.

Some Pickin'. 16 mm. sound Castle Films, 30 Rockefeller Plaza, New York 20, N. Y. $16.93.
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Milk Processing. 16 mm sound. Castle Films, 30 Rockefeller Plaza, New York 20, N. Y. $22.74.
Handling and pasteurization of milk by the holding process, construction and operation of vat-type pasteurizer.

Cleaning Equipment and Containers. 16 mm. sound. Castle Films, 30 Rockefeller Plaza, New York 20, N. Y.
Demonstrates methods for bactericidal treatment of equipment.

The Magic of Coal. 16 mm. sound. Associated Films, 347 Madison Ave., New York 17. Free.
Shows how the workings of nature, ingenuity of the inventor, and work of the miner give people the necessities and luxuries derived from bituminous coal.

Flamefoil—Canvas Protection. Associated Films, 347 Madison Ave., New York 17, N. Y. Free.
Shows a hundred uses of canvas, and treatment to prevent fire losses.

The Electron—An Introduction. Associated Films, 347 Madison Ave., New York 17, N. Y. Rental $2.00.
Explains nature of electrons, electron flow in solid conductors, electromotive force, control of electron flow, types, electron flow and magnetic fields, and induced electron flow.

BOOKS

Industrial

Radioman's Handbook, Technical Book Division, Coyne Electrical School, 500 S. Paulina St., Chicago, 1946, 321 pages, $3.25.
A reference and data book compiled and prepared by the technical staff of the Coyne Electrical School.

Principles of Tool Engineering, Raymond R. Bloom. The McGraw-Hill Book Co., New York, 1946. 234 pages, $2.40.
A text on the important principles of tool engineering geared to the needs of beginning students.

Electric Motor Repair, Robert Rosenberg. Murray Hill Books, New

York, 1946. 308 pages text, 243 pages illus., a duo-book. $5.00.
Both alternating and direct current motors are treated, with two books in a single binding.

Aerodynamics, A. Wiley Sherwood. McGraw-Hill Book Company, New York, 1946. 225 pages, $2.75.
An introduction to theoretical and experimental aerodynamics as applied to concrete problems of powered flight.

Aircraft Woodwork, Col. R. H. Drake. The Macmillan Company, New York, 1946. 197 pages, $3.50.
Information and instruction needed to fulfill the woodwork requirements for an aircraft mechanic's license.

General

So You Were Elected. Virginia Bailard and Harry C. McKown. McGraw-Hill Book Co., New York, 1946. 268 pages, $1.80.
Important aspects and problems of student leadership, including work of student officers, chairmen, etc.

PAPER COVERS

Vocational Education in the Years Ahead. Bulletin No. 234, U. S. Office of Education. Superintendent of Documents, Washington, D. C. 1946. 20¢.
A report of a committee to study postwar problems in vocational education.

Paint Manual. National Bureau of Standards, U. S. Department of Commerce. Order from Superintendent of Documents, Washington, D. C. $1.00 each.
Ready-mixed oil and varnish paints, interior and exterior wood surfaces, cement, masonry, metal surfaces. Non-technical. Explains paint failures and suggests remedies.

Establishing and Operating a Service Station and *Establishing and Operating an Automobile Repair Shop.* U. S. Department of Commerce. Order from Superintendent of Documents, Washington, D. C. 35¢ each.

Vital Information for Teachers and Students of Home Economics. Swift & Co., Public Relations Department, Union Stock Yards, Chicago, Ill.

General Leathercraft. Raymond Cherry. McKnight & McKnight, Bloomington, Ill. 1946. Revised.
Brief history of leather, its manufacture and uses, and instructions for making practical projects with designs. Well illustrated.

How to Build Solid Scale Model War Planes; The Boat Whittler's Handbook; The Commercial Artist's Handbook; Twelve Techniques for the Artist, Student, and Teacher. Published by X-Acto Crescent Products Co., N. Y.

Qualifications of an Industrial Nurse. Free from National Association of Manufacturers, 14 W. 49th St., New York 20, N. Y.

Educational Opportunities for Veterans. National Association of Secondary School Principals, NEA., 1201 16th St., Washington, D. C.

Type With One Hand. South-Western Publishing Co., Cincinnati, O. Published especially for men who have lost one hand in war.

A Career for You. Free from Educational Division, Institute of Life Insurance, 60 E. 42nd St., New York.

The Index of Training Films, 1946 Edition. Business Screen, Inc., 157 E. Erie St., Chicago.
A guide to motion pictures and slidefilms available for industrial training.

What Vocation? Prepared by Central Vocational High School, Cincinnati.
Answers important questions for youth.

Retail Policies—Their Selection and Application. U. S. Department of Commerce. 1946. Superintendent of Documents, Washington, D. C., 15¢.
A guide for both established businesses and proposed planning by retailers.

Vocational Education in Savannah. Savannah Vocational School, 214 West Bay St., Savannah, Ga. 1946. 26 pages. Free.
Pictorial presentation of vocational work in Savannah public schools.

Profit and Loss in the Enterprise System, and *The Role of Prices and Price Determination.* National Association of Manufacturers, 14 W. 49th St., New York. 1946. 48 and 50 pages. Free.
Advance copies of two chapters from a forthcoming book, *The American Individual Enterprise System.*

Study Guide for Sausage and Ready-to-Serve Meats; Study Guide for Ham and Bacon; Canned Meat Study Guide; Beef Study Guide; Lamb Study Guide. Marie Gifford, Director of Consumer Service, Armour & Co., Union Stock Yards, Chicago. 1946. Free.

Credit Sources for Small Business. U. S. Department of Commerce, Superintendent of Documents, Washington, D. C. 1946. 15¢.

What's Ahead for Me, My Job, My Marriage, My Education. The Hogg Foundation, University of Texas, Austin, Tex. 1946. 25¢.

Gainfully Employed Women and the Home. The Women's Foundation, 10 E. 40th St., New York. 1946. Free.

Report on a Survey Made in Louisville of "On-the-Job" Training Programs as Set up under the Provisions of Public Law 346, Veterans Education Program. Department of Education, Frankfort, Ky. 1946. Mimeographed, 13 pages. Free.

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VTVM Model 100 (without probe).. $52.50
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• The Teacher Looks At Home Mechanics

Editor's Note: *The September issue of the AVJournal contained a district superintendent's views on home mechanics work. In this issue we present the opinions of a teacher. G.H.F.*

The instructional content of home mechanics units is closely related to life in a modern home and community and in the home mechanics laboratory eight areas are included: electricity in the modern home; care and selection of clothing; ventilation and safety; preparation of food; sanitation and air conditioning; home furnishing; care and repair of household utensils; house and garden. There are six units in each area and 10 weeks are spent on each area.

Boys and girls often reach the 6th or 7th grades without distinguishing themselves in any way, and with an undesirable social attitude. In home mechanics classes they develop an aptitude for household tasks or an unusual ability and skill with tools and in making mechanical repairs. Their feeling of self-satisfaction, success, and importance is aided by the admiration of their classmates, a figurative pat on the shoulder by the teacher, a "well done" by an understanding principal, and they become excellent citizens of the school.

Shabby habits in youth lead to shabby habits in adult life; order in the house is necessary to the success of the home; habits of orderliness impart a feeling of self-respect and home mechanics teaches this. Students learn habits of cleanliness in handling food; that unpressed or soiled garments detract from one's appearance and may hinder in getting work or making friends.

The broad objective of the course is general education. The specific objectives are: (1) to give consumer knowledge about care and selection of products of industry; (2) to develop "handy man" abilities; (3) to promote the use of handcraft for leisure time activities in the home; (4) to contribute to the development of the personality of the child and to further the social objectives of general education.—*Catherine M. Kiernan, Chicago Public Schools, from an address given at the IVA Convention.*

• Student Builds House

Nation-wide publicity has come to George Solomon, 16-year-old student in a vocational drawing class at Springfield, Missouri. George designed and figured material cost for a house in class. He purchased the lot from proceeds of a newspaper route and borrowed money for material. He and his brother built the house in hours after school and work.

Chester E. Erickson was the drawing teacher who encouraged him with his project.

• Aeronautical Drafting Offered in Connecticut

Special application of drafting to the needs of aircraft design, alteration, and repair has created a new vocation, aeronautical drafting.

The aeronautical draftsman is used in aircraft manufacture, repair, and alteration in much the same way that the mechanical draftsman functions in the machine industry, but while both use the same tools and instruments, the training and technical knowledge required are considerably different.

Airline maintenance depots require the services of trained aeronautical draftsmen, and to meet the demand, the Putnam Technical School in Putnam, Conn., has inaugurated a new course. The school's aircraft and engine mechanics program, which has been in successful operation since 1931, provides an excellent basis for practical experience.

A careful study of the actual skills and technical requirements of aeronautical drafting preceded establishing the course, and an outline of instructional units was drawn up covering each phase of the vocation. In general, the plan consists of 5,300 hours of organized instruction; a probationary period of 300 hours, an aircraft shop schedule of 2,000 hours, and a final 3,000 hours devoted to aircraft drafting design and related elements.

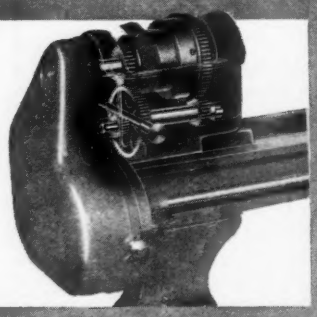
During probation, the student's mechanical ability, character, and general work habits are studied. The regular aircraft and aircraft engine mechanics schedule follows, consisting of three weeks in the shop and one in the drafting room. Shop instruction on practical repair and maintenance jobs teaches construction of aircraft. Students become familiar with Civil Air Regulations and understand what the mechanic must know and do in actual repair work. Theory of flight, ignition, carburetion, hydraulics, electrical circuits, instruments, lubrication, cooling systems, and propellers are studied, also science as applied to aircraft problems.

In the drafting room students learn fundamentals of drafting technique, but preliminary training is centered around aircraft parts and elementary construction. In mathematics, problems are taken from actual aircraft work.

Related practical instruction continues for one and one-half years, after which students start the third phase on a cycle basis of three weeks in the drafting room and one in the aircraft shops and laboratories. Drafting instruction and shop problems then become more advanced.

The growth of aviation would seem to assure employment in the field for which this course makes preparation. Frequent revisions and additions will keep the course up-to-date.—*Frederick A. Parker, Drafting Instructor, Putnam Technical School.*

Logan A NAME TO REMEMBER WHEN YOU THINK OF BETTER LATHES



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Quick Change Gear Lathe

Logan advanced design encloses back gears in the headstock, and places the complete control of these gears at the operator's finger tips. With the patented Logan Shifter Rack located on the front of the headstock, there is no need to reach over the headstock, or to lean forward close to moving parts to shift the back gears. Thus, the operator not only avoids risk, he makes the shift more easily and quickly. In addition, this location of the shifter rack adds to the trim, clean cut appearance of the Logan Lathe. It is practical designing like this, which, combined with careful construction and quality materials, makes Logan "a name to remember when you think of *better* lathes." L-3-M

SPECIFICATIONS COMMON TO ALL LOGAN LATHES . . . swing over bed, 10½" . . . bed length, 43⅛" . . . size of hole through spindle, 25/32" . . . spindle nose diameter and threads per inch, 1½"—8 . . . 12 spindle speeds, 30 to 1450 rpm . . . motor, ½ hp, 1750 rpm . . . ball bearing spindle mounting . . . drum type reversing motor switch and cord . . . precision ground ways, 2 V-ways, and 2 flat ways.

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When writing advertisers please mention *American Vocational Journal.*

• Hawaiian Homemaking Student Plans Budget

In Hawaii, homemaking home project work is practical and often a matter of "pennies saved are pennies earned."

Cerbanda Bacong, a Waialua High and Intermediate School homemaking student is the third girl in a family of six, and her project involved the efforts of her homemaking teacher, her family, and herself. One of her home responsibilities had been to take money to the plantation store to pay the monthly bill.

"Repeated balances due at the end of each month made me realize that action had to be taken to correct this condition," she says. "I am the third girl in the family but I have taken the initiative."

Cerbanda's stepfather, a Filipino plantation worker, earns approximately $165 a month with housing furnished by the plantation. After she had convinced him that she could help with the family finances, he agreed to a temporary budget. Many conferences between Cerbanda, the stepfather, and homemaking teacher followed in the next few months. Food and clothing expenditures were increased and expenses in connection with maintaining 54 ducks and 25 chickens were cut.

"My father now respects my knowledge of budgeting. I can make further changes and my interest, together with the family's, should see me through this project," she says.

• Arc Welding Awards Won by AVA Members

Members of the American Vocational Association were winners of nearly all major awards in the agricultural education and service division of the James F. Lincoln Arc Welding Foundation's first Agricultural Award and Scholarship Program.

Harold E. Gulvin, teacher of vocational agriculture at Forestville, N. Y. won first award, $3,964.75; Ray T. Nicholas, Grays Lake, Ill., county agricultural agent, second, $2,634.15; M. C. Buchanan, Salem, Oregon, third, $1,321.55; Clarence D. Jensen, Visalia, California, fourth, $991.20; Laura Lane, Extension Service, Texas A & M College, fifth, $660.75; Ralph W. Canada, associate professor of agricultural education, and G. A. Schmidt, emeritus professor of agricultural education, both of Colorado A & M College, sixth, $330.40. All except Mr. Nicholas and Mr. Schmidt are members of the AVA.

There were also 25 awards of $132.14 and 27 awards of $66.10 in this division.

A total of 30 agricultural scholarships were awarded to University of Wisconsin, Ohio State University, Kansas State College, University of Missouri, University of Illinois, Cornell, Oregon State College, University of Calif. and Texas A & M College.

• Prizes Increased

Prizes in the national apprentice contest of the American Foundrymen's Association this year are increased to $100, $50, and $25, for first, second, and third places in each division, according to W. W. Maloney, secretary-treasurer of the society.

The competition opens in January of each year, and contest divisions are gray iron, steel and non-ferous molding, and patternmaking. Apprentices may enter any or all divisions. Blueprints for the patternmaking contest and patterns for the molding competition are selected by the committee and supplied through the Association.

• Self-Proprietorship Plan For Louisiana Farm Vets

Louisiana plans to train between 7,000 and 10,000 veterans for agriculture by a Self-Proprietorship Plan.

The program is intended to return to the farm young men with a farm background who were in Service. The first school to use it was one in the strawberry belt, in Tangipahoa Parish.

Agriculture teachers visit the trainees on their farms for a minimum of 100 hours per year and trainees receive 200 hours of organized group instruction.

To qualify, a veteran must have a family-sized farm under his management either as an owner or renter.

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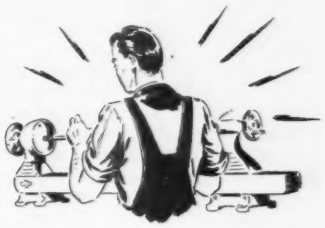

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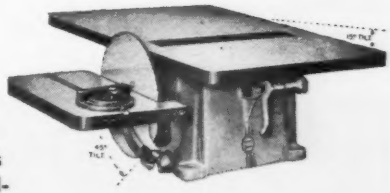
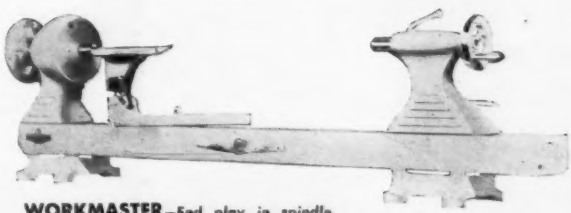
Both machines are made of rust-proof structural aluminum alloy, with accuracy in cutting and sanding assured through precision sealed-for-life ball bearings. Remember, they're available for *immediate shipment.*



SANDMASTER—*Cam action lever adjusts table for various depths of cut. Shaft extended for accessory connections. Mitre gauge graduated through 120°. Can also be used for a thickness planer.*



WORKMASTER—*End play in spindle taken up without replacing or rebuilding any part of head. V-type four-step pulley gives positive drive, and variety of speeds assures exactness in all turning operations. Perfect alignment of centers.*

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With the Associations

★ Nebraska Vocational Agriculture Association has elected Lewis Kein, of Steward, president and Roy Equall, of Superior, vice-president. Alvin Reimer, of DeWitt, is secretary.

★ Pennsylvania FFA will hold its State Farm Show January 13-17, 1947.

★ Ohio Vocational Association has a definite, well-planned program, determined early in the year by the executive committee, in the form of goals to be attained and ways of reaching them. This plan, and scheduling the program on a monthly basis, seems to be more conducive to actual *doing* than merely listing objectives.

A copy of the program and four newsletters are sent to each member during the year. An annual meeting, attended by a small percentage of the membership, is not considered sufficient reason for the existence of an organization.

The program of the OVA is accomplished through its sections: agriculture, home economics, trades and industries, and distributive education. Committees and small groups, representing these sections, are used for much detailed work. The AVA is working effectively on the national level, but more attention needs to be given to local and district programs.

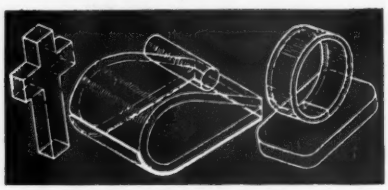
The OVA program given here is presented as one that has been planned and is being conducted. The manner and form in which it is set up seems to be acceptable, and it is hoped the procedure will result in a more effective program.

GOALS	WAYS AND MEANS
An adequate, well-planned yearly program	Executive Committee to formulate program at the first meeting after installation of officers.
A yearly budget	Executive Committee to formulate budget at first meeting.
Each section to have yearly program of work	Executive Committee urges each section to set up program and submit copy; Executive Committee recommends activities to sections.
Increase membership in OVA	Membership committee made up of secretaries of four sections; each section to set up a goal for year.
Be represented at meetings of interest to workers in vocational education.	Pay part of expenses of president and secretary to annual AVA convention; pay part of expenses of representatives to Miami Workshop; other meetings.
Promote development of a forward looking program of vocational education	Sponsor conference on new developments in vocational education in cooperation with AVA and Ohio Department of Education; sponsor vocational education workshop; publish report of two meetings.
Promote legislation which will improve both vocational and general education	Executive Committee works through legislative committee in cooperation with State Director of Vocational Education and his staff; Executive Committee pays expenses of representatives to meetings or otherwise promotes desirable legislation.
Provide members with adequate information concerning OVA activities	Newsletter prepared four times yearly by secretary of OVA and mailed to each member.
Provide continuous leadership and develop strong member-support of OVA	Executive Committee meets four times yearly; holds special meetings as necessary; annual OVA meeting for all members.
Keep OVA constitution up-to-date	Executive Committee considers revision of constitution at second regular meeting and institutes action necessary.

MONTHLY SCHEDULE OF ACTIVITIES

January—Executive Committee meeting #1; formulate new program of work; formulate new budget; publish newsletter #1; appoint standing committees.	*July*—Representative at Miami Workshop.
February—	*August*—Request copies of sectional programs of work.
March—Conference on new developments in vocational education; vocational education workshop.	*September*—Request membership goal from sections; publish newsletter #3.
April—Publish workshop report; Executive Committee meeting #2; Revision of constitution.	*October*—Executive Committee meeting #3; Nomination of officers; report of year's business.
May—Publish newsletter #2.	*November*—Election of officers.
June—	*December*—President and secretary attend AVA meeting; publish newsletter #4; annual OVA meeting and Executive Committee meeting #4; installation of new officers.

—Ralph E. Bender, President, Ohio Vocational Association



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The Carmen-Bronson CATALOG gives you complete prices and data on all the materials you need for classroom use. Plexiglas, Lucite, Bakelite, Lumarith, Lignolite, Tenite, Polystyrene, etc., in sheets, rods, tubes and special forms —crystal-clear and in many rich, glowing colors. Also lists numerous cements, dyes, compounds, accessories, supplies and semi-fabricated kits. Extra low prices—plus large discounts for quantity purchases!

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★ Preceding the AVA convention in St. Louis, the following association meetings will be held: National Association of State Supervisors of Trade and Industrial Education, Dec. 3; National Association of Industrial Teacher Trainers, Dec. 3 and 4; joint meeting of these two associations with the National Council of Local Administrators of Vocational Education and Practical Arts, Dec. 3.

★ New officers of the California Agricultural Teachers are: Arthur J. Godfrey, San Luis Obispo, president; J. Everett Walker, Modesto, vice president; Lionel Cross, San Jose, secretary treasurer. The association and the state FFA are sponsoring a large California delegation at the national FFA convention and have chartered three cars for the trip. This year's state FFA convention was held October 3-5 at San Luis Obispo.

★ Missouri Vocational Association will hold its annual convention November 7 in Kansas City in conjunction with the State Teachers Association meeting.

★ Tennessee T & I Clubs this year are conducting membership drives and attempting to double their membership. There were 825 club members and 26 clubs in the state last year.

Industrial Arts Awards

FORTY THOUSAND copies of the Rules Booklet announcing details of Scholastic Industrial Arts Awards have been sent to approximately 25,000 industrial arts teachers and principals of junior and senior high schools in the United States. An attractive poster also has been prepared and distributed which teachers can use on bulletin boards.

A large number of entries in the aluminum classification is expected since aluminum is both useful and available, while other metals are hard to get.

"What are you doing about plastics?" is a question industrial arts teachers are asking. There are two answers: (1) Plastics probably will be an added classification next year. It was necessary to start with a limited number of classifications. (2) Articles of plastic and other materials not included this year in the Industrial Arts Awards may be submitted in the Crafts Division.

Scholastic Awards will appreciate receiving suggestions from industrial arts teachers on categories which, in their opinion, should be added next year. Bring questions and suggestions to the Scholastic Exhibit Booth at the AVA Convention in St. Louis, December 4-7.

Who's Who

Miss Anna K. Banks, vice president of the American Vocational Association for home economics, this year is chairman of the newly established department of home economics of Brooklyn College, New York.

Dr. Lyman E. Jackson is the new dean of the School of Agriculture at Pennsylvania State College. He fills the vacancy caused by the retirement of **Dean S. W. Fletcher.**

Philip Schafer, Detroit, is the Pacific Coast representative of the Office of Vocational Rehabilitation. His headquarters are in San Francisco.

Mrs. Zelta Rodenwold is the new editor of the Journal of Home Economics, publication of the A.H.E.A.

Forest L. Lawton has been appointed supervisor of distributive education for the Baltimore Public Schools.

Frank Cushman, formerly with the U. S. Office of Education, has established a partnership with his son Robert, as Cushman Associates, to give professional service in employee training and supervison. The new firm is located in Long Beach, Calif.

E. E. Davis has retired as dean of North Texas Agricultural College, Arlington, Texas. Dean Davis had a strong vocational program in N.T.A.C. for many years.

Sam W. Johnson, district supervisor of trade and industrial education in Tennessee, has become personnel director of Wheland Co., Chattanooga.

Paul Moore, who has returned from Service in Germany, is evening school coordinator at Kingsport, Tenn., and teaches industrial arts.

Harold B. Taylor has been appointed associate state supervisor of agricultural education for Indiana, in charge of "institutional on-the-farm" training for veterans. He is on leave of absence from Purdue University.

Maj. Emil W. McCoy has been named state director of the Indiana school hot lunch program. Maj. McCoy formerly was state director of the the school relief division.

K. Otto Logan is the newly appointed assistant state supervisor of distributive education in Washington. He previously was coordinator of distributive education and curriculum supervisor at Aberdeen. Olympia and Shelton are two of the latest cities in the state to start distributive programs, and 12 new teacher-coordinators are engaged in the work.

Walter Brown has joined the staff of the trade and industrial education division of the Missouri state vocational department. Previously he was coordinator and supervisor of trade and industrial education in Hannibal.

The Industrial Arts Department of Kansas City, Mo., schools has added several new instructors, or men who have been in the Armed Services. Lt. Col. Paul V. Wilcox has returned to his former position as teacher of drafting; he was with the Second Bomb Division. Lt. Thomas Gardner Boyd, education officer, Naval Air Base, Anacostia, D. C., and Lt. Allan E. Pollock, education officer, Navy Disciplinary Barracks, Virginia, both former teachers, have accepted positions as general metals teachers. Lt. Edwin W. Hamilton, director of training at Madigan Hospital, Fort Lewis, Washington, is a newcomer to the school system as is Glenn O. Trogdon who was instructor in welding and sheet metal at the Naval Base at Norman, Oklahoma.

Ralph G. Eckert is the new chief of the parent education bureau in the adult education division of the California State Department of Education.

In Tribute

Daniel B. Joseph, principal of Woodrow Wilson Vocational High School in Jamaica, New York, and life member of the AVA, died September 9, 1946. Mr. Joseph was born in New York in 1891 and spent his entire life in New York educational work, starting with the New York City educational system in 1921. He organized the first full-time vocational high school classes in a Continuation School in the city and organized the Woodrow Wilson Vocational H. S. in 1942.

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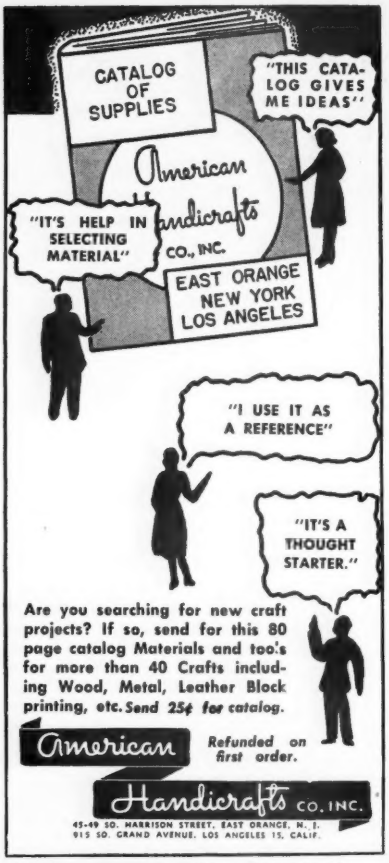
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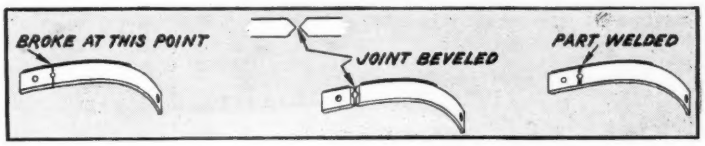
How to Repair a Broken Auto Bumper

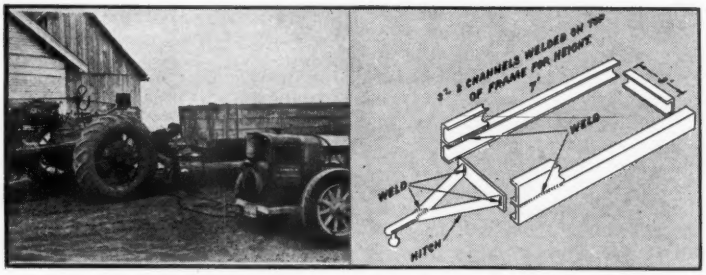
The operator of a farm machinery repair shop repairs a broken auto bumper as shown. It was broken at the point indicated in the sketch. The joint was beveled and welded as the drawing indicates.



All illustrations courtesy of Lincoln Electric Co., Cleveland, Ohio

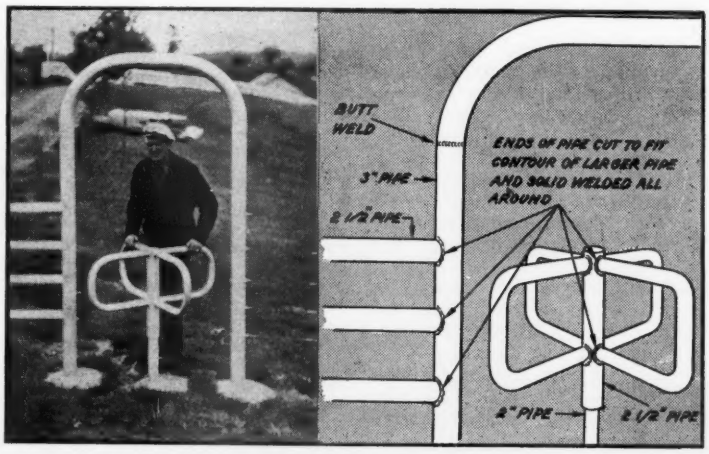
How to Build a Farm Wagon Hitch

The farm wagon in the picture was built by cutting an old truck frame and welding it into a suitable size for a wagon trailer. The method of fabricating and welding the hitch to the farm wagon is so simple that it can be done easily in the usual farm shop.



How to Build a Turnstile Gate

Pipe members were bent to shape and welded to build turnstile gate.



A V A PUBLICATIONS

Research Bulletin No. 1 — Occupational Adjustments of Vocational School Graduates. 1940. Pp. 132. Price 10 cents each; 10 or more, 5 cents each.

SURVEY FORMS for use in making local or area studies of graduates and former students of industrial, home economics, or agricultural education schools or departments; useful to occupational guidance, training, and placement programs. 1940. Pp. 4 ea. Prices: 10 copies, 15 cents; 100 copies, $1.05; 1,000 copies, $8.25.

Research Bulletin No. 2—A Study of Industrial Teacher Education at the Graduate Level. 1941. Pp. 42. Price, 10 cents each; 10 or more, 5 cents each.

An Enlarged Program of Vocational Education With Special Reference to Larger Administrative Units. 1943. Pp. 52. Price, 40 cents each; 10 or more, 35 cents each.

Improving Instruction in Industrial Arts. 1946. Price, 25 cents each; 10 or more, 20 cents each.

State Supervision of Industrial Arts Education. 1946. Free.

America's Vocational Schools. 1945. Pp. 56. Prices: single copies, 20 cents each; 100 or more, 15 cents per copy; 1,000 or more, 13 cents per copy.

The Carry-Over Into Homes of the Teaching of Family Living to In-School and Out-of-School Youth. 1943. Pp. 17. Prices: 1 to 9 copies, 20 cents each; 10 to 99 copies, 15 cents each; 100 or more copies, 9 cents each.

Evaluative Criteria for Vocational Education in Agriculture. 1942. (Revised). Pp. 75. Prices: 20 cents each; 10 or more copies, 15 cents each.

Manual of Directions for Use with "Evaluative Criteria for Vocational Education in Agriculture, 1942 Revision." 1943. Pp. 15. Prices: 1 to 9 copies, 10 cents each; 10 to 99 copies, 9 cents each; 100 or more copies, 8 cents each.

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WHAT DO YOU THINK?

THIS month the first meeting of the general conference of UNESCO will be held in Paris and the details of implementation of the purposes and functions of the organization are to be developed. Activities which have been approved for UNESCO have been set forth previously in this magazine (February, 1946). The first meeting of the National Commission on Educational, Scientific, and Cultural Cooperation was held in Washington the last of September, and in August, the World Conference on the Teaching Profession was held at Endicott, N. Y. The Endicott meeting has been called "largest and most representative gathering of educators since the war." Its committees (1) took steps to develop an inclusive, world-wide organization of the teaching profession; (2) drafted proposals for more effective teaching of international understanding; (3) considered ways and means by which teachers' organizations may alleviate sufferings of teachers and children and assist in educational reconstruction in areas devastated by war; (4) gave attention to the relations between teachers' organizations and UNESCO; (5) drafted resolutions concerning the status of teachers, the welfare of children, and the redirection of education to meet the problems of the world.

Leaders instrumental in the organization of UNESCO, the National Commission on Educational, Scientific, and Cultural Cooperation, and the World Conference on the Teaching Profession are to be commended for these forward steps, looking toward the enlightenment of all people of all nations, and the strengthening of the teaching profession. It is difficult to conceive of a higher goal than the assurance of continuing peace on earth, based upon common understandings, tolerance, and a literate world population. The high ideals which have been set forth anticipate a world in which people live together in mutual respect; a world in which the dignity of the individual is everywhere acknowledged; and a world in which the importance of the teaching profession is recognized for its signal contribution to the welfare of mankind.

To the vocational educator, the deliberations of these groups which have been made public may seem to give too little consideration to the occupational needs of the men and women whom they would help, or to the basic importance of occupational adequacy both in total education and in the economic stability of a nation. Preserving the cultures and highest traditions of a people, fostering the arts, assuring intellectual freedom through unfettered press and radio, are necessary to world understanding. The vocationalist would, at the same time, build for this understanding through a sound program in the non-vocational practical arts, guidance, and training for occupational competency of youth and adults at all levels; would prepare all for rich and wholesome home and family living; train workers and employers in human relations and improvement of working conditions; this to the end that each individual might provide for his economic security and enjoy a decent living.

There must be grass roots participation in such a program and sympathetic realization of objectives, which educators of all nations can help to bring about. If the people who work the farms, mine the ore, man the industry and commerce of the world are not adequately trained for their work and adequately compensated, if they are dissatisfied and unhappy in their everyday lives, the promotion of tolerance and good will becomes a Herculean task. People must be prepared through education and training to obtain the good things of life for themselves if they are not to be dissatisfied—material for new Hitlers. And ". . . wars begin in the minds of men. . . ."

The bedrock philosophy of vocational education could make a contribution to our new world educational planning. As long as there are vast differences in the standards of living of peoples, there is a handicap to the attainment of the goals these educational organizations have set up. The world now is operating in an industrial age or culture, and each nation's people must be trained and developed to the full extent of their capabilities, that there may be a high world standard of living. Peons and peasants must be supplanted by intelligent worker-citizens, free to make vocational choices, satisfied in their occupational lives and in the assurance that occupational competence gives, able to establish and maintain good homes, in a position to hear and read and analyze.

CONSIDERATION has been given at the several meetings to the devastation left by the war and the need for physical restoration of the educational institutions in order to preserve cultural heritages. Vocational training could help rebuild these school facilities. Youth of war-torn lands could be taught to earn a livelihood and restore their school plants at the same time. Vocational educators of this nation could help and give direction, if needed, to their fellow educators who may undertake such restoration projects.

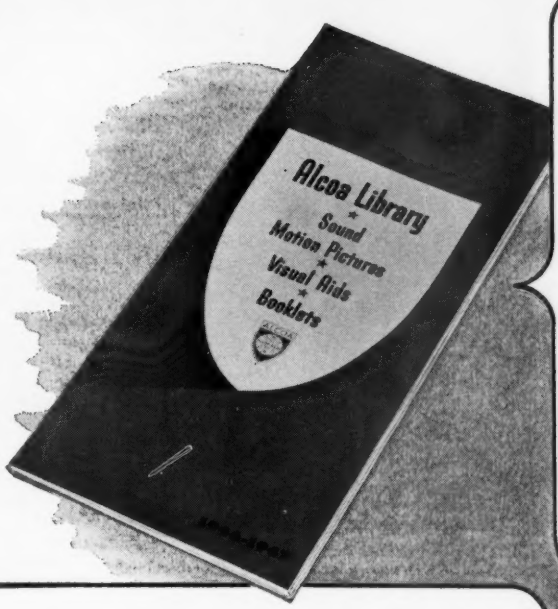
The opportunity to participate in cultural advantages depends upon the economic situation. To this end, vocational education can enable people to participate in the high endeavors of their educational leaders and so hasten the day when world understanding will assure world peace.

Should not vocational education make this contribution to the elimination of international discord, economic injustice, ignorance, and want? Should not vocational leadership make its voice heard in the deliberations for world educational scientific, and cultural improvement?

What do you think?

George H. Fern

Note: Material presented in this column represents the opinions and viewpoints of the managing editor. It in no way commits the American Vocational Association, Inc.



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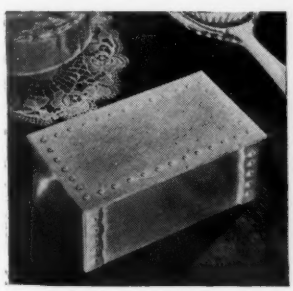
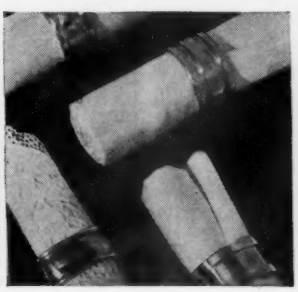
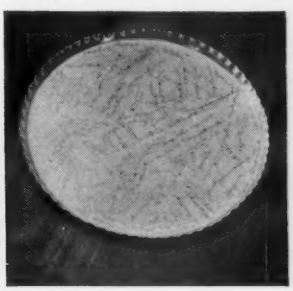
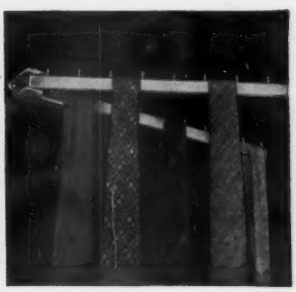

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